

# Accepted Manuscript

LPA induces keratinocyte differentiation and promotes skin barrier function through the LPAR1/LPAR5-RHO-ROCK-SRF axis

Akiko Sumitomo, Ratklao Siriwach, Dean Thumkeo, Kentaro Ito, Ryota Nakagawa, Nobuo Tanaka, Kohei Tanabe, Akira Watanabe, Mari Kishibe, Akemi Ishida-Yamamoto, Tetsuya Honda, Kenji Kabashima, Junken Aoki, Shuh Narumiya

PII: S0022-202X(18)32815-X

DOI: <https://doi.org/10.1016/j.jid.2018.10.034>

Reference: JID 1673

To appear in: *The Journal of Investigative Dermatology*

Received Date: 22 June 2018

Revised Date: 23 October 2018

Accepted Date: 28 October 2018

Please cite this article as: Sumitomo A, Siriwach R, Thumkeo D, Ito K, Nakagawa R, Tanaka N, Tanabe K, Watanabe A, Kishibe M, Ishida-Yamamoto A, Honda T, Kabashima K, Aoki J, Narumiya S, LPA induces keratinocyte differentiation and promotes skin barrier function through the LPAR1/LPAR5-RHO-ROCK-SRF axis, *The Journal of Investigative Dermatology* (2018), doi: <https://doi.org/10.1016/j.jid.2018.10.034>.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



## **LPA induces keratinocyte differentiation and promotes skin barrier function through the LPAR1/LPAR5-RHO-ROCK-SRF axis**

Akiko Sumitomo<sup>1,7</sup>, Ratklao Siriwach<sup>1,2,7</sup>, Dean Thumkeo<sup>1,2,7</sup>, Kentaro Ito<sup>1,7</sup>, Ryota Nakagawa<sup>1</sup>, Nobuo Tanaka<sup>1</sup>, Kohei Tanabe<sup>2</sup>, Akira Watanabe<sup>3</sup>, Mari Kishibe<sup>4</sup>, Akemi Ishida-Yamamoto<sup>4</sup>, Tetsuya Honda<sup>5</sup>, Kenji Kabashima<sup>5</sup>, Junken Aoki<sup>6</sup>, Shuh Narumiya<sup>1,2</sup>

<sup>1</sup>Center for Innovation in Immunoregulation Technology and Therapeutics, Kyoto University Graduate School of Medicine, Kyoto 606-8507, Japan. <sup>2</sup>Department of Drug Discovery Medicine, Kyoto University Graduate School of Medicine, Kyoto 606-8507, Japan. <sup>3</sup>Center for iPS Cell Research, Kyoto University, Kyoto 606-8507, Japan. <sup>4</sup>Department of Dermatology, Asahikawa Medical University Graduate School of Medicine, Hokkaido 078-8510, Japan. <sup>5</sup>Department of Dermatology, Kyoto University Graduate School of Medicine, Kyoto 606-8507, Japan. <sup>6</sup>Graduate School of Pharmaceutical Sciences, Tohoku University, Miyagi 980-8578, Japan.

<sup>7</sup>These authors contributed equally to this work.

**Correspondence:** Shuh Narumiya, Department of Drug Discovery Medicine, Kyoto University Graduate School of Medicine, 53 Shogoin Kawaharacho, Sakyo, Kyoto 606-8397, Japan. E-mail: snaru@mfour.med.kyoto-u.ac.jp

**Short title:** LPA promotes skin barrier function

*Abbreviations:* LPA, oleoyl-L- $\alpha$ -lysophosphatidic acid; FLG, filaggrin; AD, atopic dermatitis; ROCK, Rho-associated, coiled-coil containing protein kinase

**ABSTRACT**

The skin barrier protects our body from water loss, allergens and pathogens. Profilaggrin (proFLG) is produced by differentiated keratinocytes and is processed into FLG monomers. These monomers crosslink keratin filaments and are also decomposed to natural moisturizing factors in the *stratum corneum* for skin hydration and barrier function. Deficits in *FLG* expression impair skin barrier function and underlie skin diseases such as dry skin and atopic dermatitis (AD). However, intrinsic factors that regulate *FLG* expression and their mechanism of action remain unknown. Here, we show that lysophosphatidic acid (LPA) induces *FLG* expression in human keratinocytes via the LPAR1 and LPAR5 receptors and the downstream RHO-ROCK-SRF pathway. Comprehensive gene profiling analysis further revealed that LPA not only induces *FLG* expression but also facilitates keratinocyte differentiation. Moreover, LPA treatment significantly upregulated FLG production in a three-dimensional culture model of human skin, and promoted barrier function in mouse skin *in vivo*. Thus, our work demonstrates a previously unsuspected role for LPA and its downstream signaling in the maintenance of skin homeostasis, which may serve as a novel therapeutic target for skin barrier dysfunction.

## INTRODUCTION

The *stratum corneum* provides the skin with the ability to maintain moisture, and serves as physical and functional barrier to allergens and pathogens in the environment (Elias, 2007). Profilaggrin (proFLG), a precursor of filaggrin (FLG, filament aggregating protein), is expressed in differentiated keratinocytes in the *stratum granulosum*, and stored in keratohyalin granules (Sandilands et al., 2009). When the intracellular  $\text{Ca}^{2+}$  concentration increases in the terminally differentiated keratinocyte, the ~400 kDa proFLG precursor is secreted into the cytoplasm and rapidly processed through multiple proteolytic steps into ~37 kDa FLG monomers (Leyvraz et al., 2005; Matsui et al., 2011). These monomers bind to keratin filaments to form the dense keratin matrix of the *stratum corneum* that is indispensable for skin barrier function. In addition, FLG monomers are degraded into hygroscopic amino acids and their derivatives that function as natural moisturizing factors for skin hydration (Ishida-Yamamoto et al., 2002). It was previously reported that flaky tail mice, which show aberrant biogenesis of the *stratum corneum* and abnormal dry skin, have a loss-of-expression mutation in *Flg* (Presland et al., 2000).

Skin barrier dysfunction results in sensitization to antigens through the skin and is associated with dryness and atopic dermatitis (AD) (Palmer et al., 2006). Notably, a series of loss-of-function mutations in the *FLG* gene, all of which impair production of the FLG protein, are genetically linked to the onset of AD (Irvine et al., 2011; Smith et al., 2006). It was also demonstrated that Th2 cytokines, such as interleukin-4 (IL-4) and IL-13, suppress *FLG* expression and thus impair skin barrier function (Howell et al., 2007). *FLG* expression is therefore strongly correlated with efficacy of skin barrier function and restoring expression of this gene may provide a novel therapeutic strategy for dry skin and AD.

Lysophosphatidic acid (LPA) is a member of the lysophospholipid family of bioactive lipids.



It is produced either from lysophospholipids by the action of serum lysophospholipase D/autotaxin, or from phosphatidic acid by the action of phospholipase A1 or A2 in the membrane. LPA plays various physiological roles in a wide range of tissues (Aikawa et al., 2015; Yung et al., 2015) through six cognate G protein-coupled receptors (GPCRs), LPAR1–6. While mutation of the *LPAR6/P2RY5* gene is associated with autosomal recessive woolly hair (Shimomura et al., 2008), little is known regarding the role of other LPARs in epidermal homeostasis and skin barrier function.

RHO is a master regulator of the actin cytoskeleton and plays critical roles in a variety of cellular processes such as cytokinesis and cell migration. RHO exerts its function through binding to downstream effector molecules such as Rho-associated, coiled-coil-containing protein kinase (ROCK) (Thumkeo et al., 2013). It was previously shown that pharmacological inhibition of ROCK, with the specific inhibitor Y-27632 (Uehata et al., 1997), impairs stratification in mouse primary keratinocyte cultures (Vaezi et al., 2002). Moreover, Y-27632 treatment suppressed the differentiation of primary human keratinocytes induced on engineered micropattern-polymer substrates, and it was proposed that RHO-ROCK signaling facilitates keratinocyte differentiation through regulation of serum response factor (SRF), a unique transcription factor that is sensitive to changes in G-actin levels (Connelly et al., 2010). However, the endogenous factor(s) that activates the RHO-ROCK signaling pathway in keratinocyte differentiation and its relevance to skin barrier function remains to be elucidated.

## RESULTS

### Establishment of a protocol for inducing *FLG* expression in cultured NHEKs

Keratinocytes upregulate *FLG* expression as they differentiate from basal to granule cells (Simpson et al., 2011). To screen for compounds that can enhance *FLG* expression, we used normal human epidermal keratinocytes (NHEKs), a primary culture of keratinocytes from the epidermis of neonates. By modification of reported culture methods (Amano et al., 2015; Borowiec et al., 2013; Cohen et al., 2012; Otsuka et al., 2014; van den Bogaard et al., 2013), we established a protocol, in which growth factors (GF) were removed from the culture medium 48 h prior to exposure of cells to high  $\text{Ca}^{2+}$  concentration (1.2 mM) and the cells were subsequently cultured for 72 h (Figure 1a). At the time of  $\text{Ca}^{2+}$  exposure, IL-4 was also included in the culture medium to mimic the Th2 condition, which suppresses basal *FLG* expression (Howell et al., 2007). To validate this protocol, we tested the effect of a JAK inhibitor, CP-690,550, that was reported to upregulate *FLG* expression in NHEKs under the Th2 condition (Amano et al., 2015; Levy et al., 2015). CP-690,550 induced *FLG* expression in a concentration-dependent manner in our assay system (Figure 1b).

### Screening for GPCR ligands that enhance *FLG* expression in NHEKs

Given that ~35% of drugs approved by the The Food and Drug Administration (FDA) for clinical use target G protein-coupled receptors (GPCRs) (Jacobson, 2015), we sought to identify GPCR ligands that can enhance *FLG* expression in NHEKs. We used a human GPCR array to examine GPCRs expressed in NHEKs cultured under our protocol conditions (1.2 mM  $\text{Ca}^{2+}$ , 30 ng/ml IL-4 for 72 h) (Figure 1a). Of the 380 GPCRs included in the array, 119 were found to be expressed in cultured NHEKs (Supplementary Table S1). The top 30 most highly expressed GPCRs are listed in Figure 1c. From this list, we chose EDG2/LPAR1, P2RY1/P2Y1 and ADRB2, as three

representative GPCRs coupled to G<sub>12/13</sub>/G<sub>i</sub>, G<sub>q</sub>, and G<sub>s</sub>, respectively, and evaluated the effect of their respective ligands, oleoyl-L- $\alpha$ -lysophosphatidic acid (LPA), adenosine 5'-[ $\beta$ -thio] diphosphate trilithium (ADP), and salbutamol. While ADP and salbutamol had no discernable positive effect on *FLG* expression in NHEKs (Supplementary Figure S1a and b), LPA significantly upregulated *FLG* expression in a concentration-dependent manner (Figure 1d). Consistent with a previous report (Howell et al., 2007), we confirmed that IL-4 significantly suppressed the basal level of *FLG* expression in our culture system (Supplementary Figure S2a). Notably, LPA enhanced *FLG* expression irrespective of the presence or absence of IL-4 (Supplementary Figure S2b). Thus, LPA strongly enhances *FLG* expression in NHEKs.

### **LPA induces proFLG/FLG production and morphological changes in NHEKs**

To confirm the expression of proFLG/FLG proteins in NHEKs, we analyzed lysates from cells cultured in the presence of LPA by western blotting. LPA induced proFLG/FLG protein expression in NHEKs in a concentration-dependent manner (Figure 2a and b). Additionally, immunofluorescence analysis showed that LPA treatment increased the number of proFLG/FLG-positive cells (Figure 2c, left and 2d). High magnification images revealed that proFLG/FLG staining in LPA-treated NHEKs had a granular appearance, presumably indicating the presence of keratohyalin granules typically seen in differentiated keratinocytes (Figure 2c, middle and right). Time-lapse imaging of NHEKs showed progressive changes in cell morphology upon LPA treatment (*e.g.*, elongation and stratification, which are characteristic of differentiated keratinocytes; Figure 2e and Supplementary Movie S1) with a concomitant suppression of cell proliferation (Supplementary Figure S3). When taken together, these results not only indicate that LPA induces proFLG/FLG protein expression, but also suggest that LPA facilitates differentiation of

NHEKs.

### **LPA induces *FLG* expression in NHEKs through LPAR1 and LPAR5**

Of the six LPA receptors (*LPAR1–6*) expressed in humans (Aikawa et al., 2015), five were detected in NHEKs, as determined by quantitative reverse transcription-polymerase chain reaction (qRT-PCR) analysis (only *LPAR4* expression was undetectable; Figure 3a). We used LPA receptor agonists/antagonists to identify the receptor(s) responsible for LPA-dependent *FLG* expression in NHEKs. Both AM095, an LPAR1 antagonist (Swaney et al., 2011), and TCLPA54, an LPAR5 antagonist (Kozian et al., 2012), suppressed LPA-induced *FLG* expression in NHEKs (Figure 3b and c). However, GRI977143, an LPAR2 agonist (Kiss et al., 2012), and T13, an LPAR3 agonist (Kano et al., 2008; Tamaruya et al., 2004), did not induce *FLG* expression in NHEKs (Supplementary Figure S4a and b). When taken together, these results suggest that LPA signals through LPAR1 and LPAR5 to induce *FLG* expression in NHEKs. To validate these findings, we used siRNAs to suppress the expression of *LPAR1* and *LPAR5*, either alone or in combination, in NHEKs. We used two different siRNAs (#1, #2) for each receptor type, and confirmed the selectivity and efficiency of target receptor knockdown by qRT-PCR (Figure 3d and e). Notably, knockdown of each receptor resulted in the slight upregulation of the other, suggesting possible compensation between these two LPA receptor types. Knockdown of either *LPAR1* or *LPAR5* suppressed LPA-induced *FLG* expression by 50–60%, while the combined knockdown of both receptors had an additive effect, suppressing LPA-induced *FLG* expression by 75–90% (Figure 3f). In contrast, knockdown of *LPAR2*, *LPAR3*, or *LPAR6* (Supplementary Figure S4c), had no obvious suppressive effect on LPA-induced *FLG* expression (Supplementary Figure S4d). We therefore concluded that LPA induces *FLG* expression through *LPAR1* and *LPAR5* in NHEKs.

**LPA-induced *FLG* expression in NHEKs is mediated by the RHO-ROCK-SRF axis**

LPAR1 and LPAR5 have been shown to signal through G<sub>12/13</sub> to activate the small GTPase RHO, leading to activation of its downstream effector ROCK in cultured cell lines (Bian et al., 2006; Koike et al., 2010; Mikelis et al., 2013). Given this, we tested whether LPA induces *FLG* expression in NHEKs through the RHO-ROCK signaling pathway. Inhibition of ROCK with Y-27632 suppressed LPA-induced *FLG* expression in a concentration-dependent manner (Figure 3g). Consistent with this, pull-down assays showed that LPA treatment rapidly and transiently increased the level of GTP-bound RHOA in NHEKs (Figure 3h and i). Moreover, knockdown of RHOA significantly suppressed LPA-induced *FLG* expression (Supplementary Figure S5a and b). RHO-ROCK signaling has been shown to activate the transcription factor SRF (Treisman et al., 1998). Given that SRF has been implicated in keratinocyte differentiation (Connelly et al., 2010; Koegel et al., 2009; Luxenburg et al., 2011), we next examined whether LPA activates SRF in NHEKs through the RHO-ROCK pathway using a luciferase reporter assay. We found that LPA upregulated SRF-luciferase reporter activity in NHEKs in a concentration-dependent manner, and this upregulation was suppressed by pre-treatment with Y-27632 (Figure 3j). We then tested the effect of SRF inhibition on LPA-induced *FLG* expression using CCG-1423 (Evelyn et al., 2007), which interferes with SRF activation through direct binding and inhibition of MRTF-A, a SRF coactivator (Hayashi et al., 2014). CCG-1423 inhibited both LPA-induced *FLG* expression and *FLG* protein production (Figure 3k and l). Together, these results indicate that LPA induces *FLG* gene expression and protein production in NHEKs through the RHO-ROCK-SRF pathway.

Because LPARs also signal through G<sub>ai/o</sub> (Riaz et al., 2016), we tested the possible involvement of this pathway in *FLG* induction using inhibitors of MEK and PI3K, two major

effectors downstream of  $G_{\alpha i/o}$  (Mendoza et al., 2011). Both U0126, a MEK inhibitor, and Wortmannin, a PI3K inhibitor, failed to suppress LPA-induced *FLG* expression (Supplementary Figure S6a and b), suggesting that these pathways are not involved in LPA-induced *FLG* expression. We also tested the possible involvement of EGFR in *FLG* induction, given that LPA has been shown to induce expression of the EGFR ligand TGF $\alpha$  in cultured keratinocytes to promote cell proliferation (Piazza et al., 1995). We found that EGF reduced *FLG* expression in a concentration-dependent manner (Supplementary Figure S7a). Consistent with this finding, treatment of NHEKs with PD168393, an EGFR-specific inhibitor, increased LPA-induced *FLG* expression (Supplementary Figure S7b). Furthermore, a TGF $\alpha$ -neutralizing antibody had no obvious effects on *FLG* expression (Supplementary Figure S7c). These results together suggest that EGFR signaling has no positive role in LPA-induced *FLG* expression.

### **Comprehensive and comparative analysis of LPA- and CP-690,550-induced gene expression in NHEKs**

Although LPA induced morphological changes indicative of differentiation in NHEKs (Figure 2d), CP-690,550 induced no such changes (Supplementary Figure S8a), suggesting that these two compounds exert their effects on *FLG* expression through different mechanisms. To address this question, we conducted an unbiased gene expression analysis of LPA- or CP-690,550-treated NHEKs (Figure 4a). We validated our analysis by confirming the significant induction of *FLG* expression by both of these compounds (Figure 4b). Volcano plot revealed that LPA treatment led to an at least 2-fold upregulation of 1477 genes (4244 entities) and downregulation of 1535 genes (3386 entities) in NHEKs, when compared with the vehicle-treated control (Figure 4c, left, and Supplementary Table S2 and S3), whereas only 34 and 124 genes were up- and down-regulated,

respectively, upon CP-690,550 treatment (Figure 4c, right, and Supplementary Table S4 and S5). Gene ontology (GO) analysis depicted 650 biological pathways significantly altered in response to LPA treatment (Supplementary Table S6). The top 30 GO terms among these are listed in Figure 4d (genes included in each GO term are listed in Supplementary Table S7). The pathways of downregulated gene clusters include those involved in cilium assembly (Figure 4e, left). The cilia-associated genes, such as *IFT88*, are predominantly expressed in undifferentiated keratinocytes in the *stratum basale* (Elofsson et al., 1984; Ezratty et al., 2011). This result suggested that LPA promotes differentiation from basal keratinocytes. Consistent with this, upregulated gene clusters include those implicated in keratinocyte differentiation and epidermis development (Figure 4e, middle). In addition, genes downstream of the MRTF-SRF pathway, as defined according to previously published results (Esnault et al., 2014), were significantly upregulated (Figure 4e, right, and Supplementary Table S8). These microarray results were validated by qRT-PCR expression analysis of several representative genes such as *INVL*, *TGMI* and *ACTN1*, in addition to *FLG* (Figure 4f). GO term analysis of NHEKs treated with CP-690,550 was also conducted for comparison (Supplementary Table S9), and the top 30 terms are listed in Supplementary Figure S8b. When the sets of genes altered by LPA were compared with those altered by CP-690,550 by Venn diagrams, the vast majority of the genes, as demarcated by the red boundaries, were exclusively up- or down-regulated by LPA (Supplementary Figure S9a, left, and Supplementary Table S10). GO terms of the significantly upregulated genes in this category include keratinocyte differentiation, epidermis development and cornified envelope (Supplementary Figure S9a, right, and Supplementary Table S11). In contrast, only a small fraction of genes was altered by both compounds (demarcated by the red boundary in Supplementary Figure S9b, left, and Supplementary Table S12). The top 30 GO terms of this category are shown in Supplementary Figure S9b, right,

and Supplementary Table S13. LPA therefore induced expression of a larger number of genes related to keratinocyte differentiation and cornification than did CP-690,550 in NHEKs.

### **LPA promotes proFLG/FLG production and *stratum corneum* thickening in a 3D culture model of human epidermis**

To test the effects of LPA on *FLG* induction under more physiological conditions, we employed a three-dimensional (3D) human epidermal culture system (Eaglstain and Falanga, 1998). Epidermal cultures were treated with LPA for 4 days with or without Y-27632 (Figure 5a), and lysates were then prepared and subjected to western blotting for the detection of proFLG/FLG protein. LPA upregulated production of proFLG/FLG protein in this model in a ROCK-dependent manner (Figure 5b). In addition, immunofluorescence analysis revealed that LPA not only increased proFLG/FLG staining in the *stratum granulosum* and *stratum corneum* in this model, but also increased the thickness of the *stratum corneum* (Figure 5c–e). Thickening of the *stratum corneum* in the 3D skin model was previously reported to occur as a result of keratinocyte differentiation (van den Bogaard et al., 2013; van den Bogaard et al., 2015) and to be dependent upon *FLG* expression (Pendaries et al., 2014). This finding is therefore in agreement with the keratinocyte differentiation-promoting activity of LPA in NHEKs. Furthermore, LPAR1/5 antagonists and Y-27632 significantly inhibited LPA-induced proFLG/FLG staining and *stratum corneum* thickening (Supplementary Figure S10a–c). Therefore, LPA also enhanced *FLG* expression and keratinocyte differentiation through the LPAR1/5-RHO-ROCK pathway in a 3D model of human skin.

### **Topical application of LPA promotes skin barrier function in mice**



We next sought to determine the effects of LPA on the skin barrier *in vivo* in mice. We first prepared primary mouse keratinocytes and confirmed that the LPA receptors, *Lpar1*, *Lpar2*, *Lpar5* and *Lpar6*, are expressed in these cells (Supplementary Figure S11a), and that LPA induces *Flg* expression in a concentration-dependent manner (Supplementary Figure S11b and c). We also confirmed that LPA-induced *Flg* expression was significantly inhibited by an LPAR1 antagonist (AM095, Supplementary Figure S11b) and an LPAR5 antagonist (TCLPA5, Supplementary Figure S11c), suggesting that LPA signals through *Lpar1/5* in mouse keratinocytes as in NHEKs.

Next, we topically applied 1% LPA cream to the ear skin of C57BL/6N mice (Figure 6a) and subsequently collected ears for qRT-PCR analysis to evaluate the expression of three representative skin barrier genes, *Inv*, *Spr4* and *Flg*. We observed significant increases in the expression of these genes in LPA-treated ears, when compared with vehicle-treated ears (Figure 6b). Haematoxylin/eosin (H&E) staining (Figure 6c, upper panel) and *Flg* immunohistochemistry (Figure 6c, lower panel) further confirmed signs of keratinocyte differentiation and *Flg* protein production in the skin of LPA-treated ears. We found that the intensity of *Flg* staining increased specifically in the *stratum granulosum* and *stratum corneum* following treatment with 1% LPA cream (Figure 6c, lower panel). Moreover, transmission electron microscopy (TEM) analysis showed that keratohyalin granules in keratinocytes of the *stratum granulosum* of the LPA-treated ear were substantially larger than those observed in the keratinocytes of the vehicle-treated ear (Figure 6d).

To further test the therapeutic potential of LPA on impaired skin barrier function, we subjected mice to acetone/ether/water (AEW) treatment and examined the effects of topically applied 1% LPA cream in this dry skin mouse model (Figure 6e). AEW treatment (twice a day) gradually increased transepidermal water loss (TEWL) from day 0 to day 2 (Supplementary Figure

S12). Topical application of the LPA cream significantly suppressed TEWL after 24 h (Figure 6f).

LPA treatment for 24 h also significantly reduced the total score for skin dryness as determined by an assessment of corneal flaking, skin wrinkling/creasing and skin reddening (Figure 6g and h).

Together, these results indicate that LPA improves skin barrier function *in vivo*.

ACCEPTED MANUSCRIPT

**DISCUSSION**

LPA has previously been shown to induce keratinocyte proliferation through TGF $\alpha$  induction (Piazza et al., 1995), and to enhance keratinocyte migration during wound healing (Jans et al., 2013). LPA has also been reported to be involved in the regulation of hair follicles *in vivo*, where the enzyme LIPH (also known as mPA-PLA $_1\alpha$ ) that is highly expressed in epidermal keratinocytes (Aoki et al., 2008; Diribarne et al., 2012), catalyzes the synthesis of LPA which subsequently functions through LPAR6 (Shimomura et al., 2009; Inoue et al., 2011). Our current study has revealed a role, to our knowledge previously unreported, for LPA in inducing keratinocyte differentiation and *FLG* expression through the LPAR1/5-RHO-ROCK-SRF signaling axis. This role was validated in NHEK cell cultures and a 3D model of human skin. A role for LPA in promoting skin barrier function was also demonstrated using a dry skin mouse model. Our findings are in agreement with, and have significantly extended previous findings on, a role for LPA in promoting skin moisture (Yahagi et al., 2011).

One critical question is whether this LPA pathway operates *in vivo* to impact on keratinocyte differentiation and *FLG* expression. We found that the LPA competitive antagonist Ki16425 reduced basal *FLG* expression in NHEKs in a concentration-dependent manner (Supplementary Figure S13). It is therefore likely that LPA, produced by keratinocytes themselves through LIPH, regulates keratinocyte differentiation and *FLG* expression. In addition, in the skin *in vivo*, LPA may also be produced by fibroblasts through autotaxin, another LPA-producing enzyme (Aoki, et al., 2008). It should be noted that while LPAR1 is a member of the endothelial cell differentiation gene (Edg) family, LPAR5 is a ‘non-Edg’ LPA receptor that belongs to the purinergic receptor (P2Y) family (Yung et al., 2015). Therefore, our study suggests the possibility of crosstalk between two types of LPA receptor that are of different evolutionary origins. Although no apparent skin phenotype has been reported in *Lpar1* or *Lpar5* knockout mice (Contos et al., 2000; Lin et al., 2012), the

generation and study of *Lpar1/5* double-knockout mice may reveal previously unidentified *in vivo* roles of LPA in keratinocyte differentiation and skin barrier function. If this is the case, then the next important question to be investigated is whether the production of endogenous LPA is induced or suppressed under conditions of skin inflammation such as in AD.

Previous studies have demonstrated that activation of the JAK-STAT3 pathway by Th2 cytokines inhibits keratinocyte differentiation and that suppression of this pathway using a JAK inhibitor enhances *FLG* expression and improves skin barrier function (Amano et al., 2015; Levy et al., 2015). Based on these findings, JAK inhibitors are now being used clinically in the treatment of AD (Damsky and King, 2017; Kostovic et al., 2017). Although we have shown that both a JAK inhibitor and LPA can induce *FLG* expression in NHEKs, their mechanisms of *FLG* induction are apparently different. First, JAK inhibitors increase *FLG* expression in NHEKs without any accompanying changes in cell morphology, whereas LPA induces morphological changes that are characteristic of keratinocyte differentiation (elongation and stratification of cells and an increase in the number and size of keratohyalin granules). Moreover, comprehensive gene expression profiling revealed that LPA affects a broader range of biological pathways than the JAK inhibitor, including genes targeted by SRF and genes related to epidermis development and cornification. Given the rapid activation of RHOA upon LPA treatment (Figure 3h and i), we reason that RHOA-SRF signaling is primarily responsible for the induction of keratinocyte differentiation genes downstream of LPAR1/5. This would be consistent with previous works describing the functional importance of SRF in keratinocyte differentiation (Connelly et al., 2010; Koegel et al., 2009; Luxenburg et al., 2011). However, we do not rule out the possibility that alternative pathways, other than RHO-ROCK-SRF, may also be activated in response to LPA in differentiating keratinocytes, and may also therefore contribute to the induction of keratinocyte differentiation genes. Intriguingly, LPAR5 is reported to

have a strong preference for ether-linked alkyl-LPA (Williams et al., 2009; Jongsma et al., 2011) and could mediate increases in intracellular cAMP in addition to RHOA activation (Lee et al., 2006). It remains to be studied whether these unique characteristics of LPAR5 play a role in LPA-induced *FLG* expression and keratinocyte differentiation.

Finally, given that LPA is strongly effective in enhancing *FLG* expression and keratinocyte differentiation, we suggest that LPA, or selective agonists to LPAR1 and LPAR5, have a potential as therapeutic agents to promote barrier function in human dry skin and AD. Further studies are warranted to deepen our understanding of the role of LPA in skin biology and to unravel the therapeutic potential of LPA in human skin diseases.

## MATERIALS AND METHODS

See SUPPLEMENTARY MATERIALS online for detailed experimental method.

### Cell culture and three-dimensional (3D) human skin model

Normal Human Epidermal Keratinocytes (NHEKs) were obtained from KURABO (Japan) and maintained in an undifferentiated state in HuMedia KG-2 media. To induce differentiation, cells were cultured in EpiLife medium containing 60  $\mu\text{M}$   $\text{Ca}^{2+}$  (Gibco) without growth factors. Primary mouse keratinocytes prepared from newborn wild-type mice (C57BL/6N) (Li et al., 2017) were maintained in EpiLife medium (Gibco) containing 60  $\mu\text{M}$   $\text{Ca}^{2+}$  and defined growth supplements (dGS; Invitrogen), and then cultured in EpiLife medium containing 200  $\mu\text{M}$   $\text{Ca}^{2+}$  without dGS for 48 to 72 h to induce differentiation. The day-6 *in vitro* human 3D skin model was obtained from JTEC (Japan) and cultured as previously described (Eaglstain and Falanga, 1998).

### Animals

C57BL/6N mice (male) were purchased from SLC (Shizuoka, Japan) and maintained under specific pathogen-free (SPF) conditions. Details regarding the topical application of LPA and the AEW dry skin mouse model are provided in SUPPLEMENTARY MATERIALS. All animal experiments were conducted in accordance with the US National Institutes of Health Guide for the Care and Use of Laboratory Animals and approved by the Institutional Animal Care and Use Committee of Kyoto University Graduate School of Medicine.

### Chemicals, antibodies, and molecular biology experiments

Chemicals, antibodies, the GPCR array, siRNAs, and primers for qRT-PCR, as well as the standard

molecular biology methods used in this study, are described in SUPPLEMENTARY MATERIALS.

### **SRF luciferase reporter assay**

At 80–90% confluency, NHEKs were transiently transfected with both the pGL4.34[*luc2P*/SRF-RE/Hygro] (Promega) plasmid containing the luciferase reporter gene downstream of the SRF-response element, and the pGL4.74[*hRluc*/TK] plasmid (Promega) containing the control luciferase reporter gene using TransIT-Keratinocyte Transfection Reagent (Mirus Bio) according to the manufacturer's protocol. Cells were assayed 24 hours after transfection. Firefly reporter and *Renilla* luciferase activities were determined 24 hours after LPA stimulation using the Dual-Glo luciferase assay kit (Promega) and reported in relative luminescence units (RLU).

### **Statistical analysis**

Excel (Microsoft) and Prism (GraphPad Software) were used for statistical analyses. Data (means  $\pm$  standard error of the mean (SEM)) were analyzed using either the Student's *t*-test (two-tailed), Mann-Whitney test (two-tailed), and Kruskal–Wallis test with Dunn's multiple comparisons tests, or using one-way or two-way analysis of variance (ANOVA) followed by Bonferonni post-hoc tests.

### **Data availability**

The DNA microarray data were deposited in Gene Expression Omnibus (GEO) repository, NCBI (GSE122023, <https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE122023>). Details regarding the microarray analysis are provided in SUPPLEMENTARY MATERIALS.

**CONFLICT OF INTEREST**

DT and SN were supported by the Coordination Fund from JST and Astellas Pharma Inc. SN is a scientific advisor to Astellas Pharma Inc. No potential conflicts of interest were disclosed by the other authors.

**ACKNOWLEDGEMENTS**

We thank J. Monypenny for critical reading of the manuscript, K. Kano and T. Dainichi for technical advice, N. Asamoto and K. Naruo for technical assistance and A. Washimi, T. Arai, Y. Nakanishi and T. Ijiri for their secretarial assistance. This work was supported in part by Grants-in-Aid for Scientific Research from the Ministry of Education, Culture, Sports, Science, and Technology of Japan (DT, SN); by a research grant from Ono Medical Research Foundation (DT); and by the Special Coordination Funds by the Ministry of Education, Culture, Sports, Science, and Technology of Japan and Astellas Pharma Inc. in Creation of Innovation Centers for Advanced Interdisciplinary Research Areas (DT, SN).



## REFERENCES

- Aikawa S, Hashimoto T, Kano K, Aoki J. Lysophosphatidic acid as a lipid mediator with multiple biological actions. *J Biochem* 2015;157:81-9.
- Amano W, Nakajima S, Kunugi H, Numata Y, Kitoh A, Egawa G, et al. The Janus kinase inhibitor JTE-052 improves skin barrier function through suppressing signal transducer and activator of transcription 3 signaling. *J Allergy Clin Immunol* 2015;136:667-77.
- An S, Bleu T, Hallmark OG, Goetzl EJ. Characterization of a novel subtype of human G protein-coupled receptor for lysophosphatidic acid. *J Biol Chem* 1998;273:7906-10.
- Aoki J, Inoue A, Okudaira S. Two pathways for lysophosphatidic acid production. *Biochim Biophys Acta* 2008;1781:513-8.
- Bandoh K, Aoki J, Hosono H, Kobayashi S, Kobayashi T, Murakami-Murofushi K, et al. Molecular cloning and characterization of a novel human G-protein-coupled receptor, EDG7, for lysophosphatidic acid. *J Biol Chem* 1999;274:27776-85.
- Bian D, Mahanivong C, Yu J, Frisch SM, Pan ZK, Ye RD, et al. The G12/13-RhoA signaling pathway contributes to efficient lysophosphatidic acid-stimulated cell migration. *Oncogene* 2006;25:2234-44.
- Borowiec AS, Delcourt P, Dewailly E, Bidaux G. Optimal differentiation of in vitro keratinocytes requires multifactorial external control. *PLoS One* 2013;8:e77507.
- Cohen I, Birnbaum RY, Leibson K, Taube R, Sivan S, Birk OS. ZNF750 is expressed in differentiated keratinocytes and regulates epidermal late differentiation genes. *PLoS One* 2012;7:e42628.
- Connelly JT, Gautrot JE, Trappmann B, Tan DW, Donati G, Huck WT, et al. Actin and serum response factor transduce physical cues from the microenvironment to regulate epidermal stem cell fate decisions. *Nat Cell Biol* 2010;12:711-8.
- Contos JJ, Fukushima N, Weiner JA, Kaushal D, Chun J. Requirement for the lpA1

lysophosphatidic acid receptor gene in normal suckling behavior. *Proc Natl Acad Sci U S A* 2000;97:13384-9.

Damsky W, King BA. JAK inhibitors in dermatology: The promise of a new drug class. *J Am Acad Dermatol* 2017;76:736-44.

Diribarne M, Mata X, Riviere J, Bouet S, Vaiman A, Chapuis J, et al. LIPH expression in skin and hair follicles of normal coat and Rex rabbits. *PLoS One* 2012;7:e30073.

Eaglstein WH, Falanga V. Tissue engineering and the development of Apligraf a human skin equivalent. *Advances in wound care : the journal for prevention and healing* 1998;11(4 Suppl):1-8.

Elias PM. The skin barrier as an innate immune element. *Semin Immunopathol* 2007;29:3-14.

Elofsson R, Andersson A, Falck B, Sjoborg S. The ciliated human keratinocyte. *J Ultrastruct Res* 1984;87:212-20.

Esnault C, Stewart A, Gualdrini F, East P, Horswell S, Matthews N, et al. Rho-actin signaling to the MRTF coactivators dominates the immediate transcriptional response to serum in fibroblasts. *Genes Dev* 2014;28:943-58.

Evelyn CR, Wade SM, Wang Q, Wu M, Iniguez-Lluhi JA, Merajver SD, et al. CCG-1423: a small-molecule inhibitor of RhoA transcriptional signaling. *Mol Cancer Ther* 2007;6:2249-60.

Ezratty EJ, Stokes N, Chai S, Shah AS, Williams SE, Fuchs E. A role for the primary cilium in Notch signaling and epidermal differentiation during skin development. *Cell* 2011;145:1129-41.

Hayashi K, Watanabe B, Nakagawa Y, Minami S, Morita T. RPEL proteins are the molecular targets for CCG-1423, an inhibitor of Rho signaling. *PLoS One* 2014;9:e89016.

Hecht JH, Weiner JA, Post SR, Chun J. Ventricular zone gene-1 (vzg-1) encodes a lysophosphatidic acid receptor expressed in neurogenic regions of the developing cerebral cortex. *J Cell Biol*

- Howell MD, Kim BE, Gao P, Grant AV, Boguniewicz M, Debenedetto A, et al. Cytokine modulation of atopic dermatitis filaggrin skin expression. *J Allergy Clin Immunol* 2007;120:150-5.
- Inoue A, Arima N, Ishiguro J, Prestwich GD, Arai H, Aoki J. LPA-producing enzyme PA-PLA $\alpha$  regulates hair follicle development by modulating EGFR signalling. *EMBO J* 2011;30:4248-60.
- Irvine AD, McLean WH, Leung DY. Filaggrin mutations associated with skin and allergic diseases. *N Engl J Med* 2011;365:1315-27.
- Ishida-Yamamoto A, Senshu T, Eady RA, Takahashi H, Shimizu H, Akiyama M, et al. Sequential reorganization of cornified cell keratin filaments involving filaggrin-mediated compaction and keratin 1 deimination. *J Invest Dermatol* 2002;118:282-7.
- Itoh E, Nakahara T, Furumura M, Furue M, Shimomura Y. Case of autosomal recessive woolly hair/hypotrichosis with atopic dermatitis. *J Dermatol* 2017;44:1185-6.
- Jacobson KA. New paradigms in GPCR drug discovery. *Biochem Pharmacol* 2015;98:541-55.
- Jans R, Mottram L, Johnson DL, Brown AM, Sikkink S, Ross K, et al. Lysophosphatidic acid promotes cell migration through STIM1- and Orai1-mediated Ca $^{2+}$ (i) mobilization and NFAT2 activation. *J Invest Dermatol* 2013;133:793-802.
- Jongsma M, Matas-Rico E, Rzadkowski A, Jalink K, Moolenaar WH. LPA is a chemorepellent for B16 melanoma cells: action through the cAMP-elevating LPA5 receptor. *PLoS One* 2011;6:e29260.
- Kano K, Arima N, Ohgami M, Aoki J. LPA and its analogs-attractive tools for elucidation of LPA biology and drug development. *Curr Med Chem* 2008;15:2122-31.
- Kiss GN, Fells JI, Gupte R, Lee SC, Liu J, Nusser N, et al. Virtual screening for LPA2-specific agonists identifies a nonlipid compound with antiapoptotic actions. *Mol Pharmacol*

- Koegel H, von Tobel L, Schafer M, Alberti S, Kremmer E, Mauch C, et al. Loss of serum response factor in keratinocytes results in hyperproliferative skin disease in mice. *J Clin Invest* 2009;119:899-910.
- Koike S, Keino-Masu K, Masu M. Deficiency of autotaxin/lysophospholipase D results in head cavity formation in mouse embryos through the LPA receptor-Rho-ROCK pathway. *Biochem Biophys Res Commun* 2010;400:66-71.
- Kostovic K, Gulin SJ, Mokos ZB, Ceovic R. Tofacitinib, an Oral Janus Kinase Inhibitor: Perspectives in Dermatology. *Curr Med Chem* 2017;24:1158-67.
- Kotarsky K, Boketoft A, Bristulf J, Nilsson NE, Norberg A, Hansson S, et al. Lysophosphatidic acid binds to and activates GPR92, a G protein-coupled receptor highly expressed in gastrointestinal lymphocytes. *J Pharmacol Exp Ther* 2006;318:619-28.
- Kozian DH, Evers A, Florian P, Wonerow P, Joho S, Nazare M. Selective non-lipid modulator of LPA5 activity in human platelets. *Bioorganic Med Chem Lett* 2012;22:5239-43.
- Lee CW, Rivera R, Gardell S, Dubin AE, Chun J. GPR92 as a new G12/13- and Gq-coupled lysophosphatidic acid receptor that increases cAMP, LPA5. *J Biol Chem* 2006;281:23589-97.
- Levy LL, Urban J, King BA. Treatment of recalcitrant atopic dermatitis with the oral Janus kinase inhibitor tofacitinib citrate. *J Am Acad Dermatol* 2015;73:395-9.
- Leyvraz C, Charles RP, Rubera I, Guitard M, Rotman S, Breiden B, et al. The epidermal barrier function is dependent on the serine protease CAP1/Prss8. *J Cell Biol* 2005;170:487-96.
- Li F, Adase CA, Zhang L. Isolation and culture of primary mouse keratinocytes from neonatal and adult mouse skin. *J Vis Exp* 2017;(125):10.3791/56027.
- Lichte K, Rossi R, Danneberg K, ter Braak M, Kurschner U, Jakobs KH, et al. Lysophospholipid receptor-mediated calcium signaling in human keratinocytes. *J Invest Dermatol*

- Lin ME, Rivera RR, Chun J. Targeted deletion of LPA5 identifies novel roles for lysophosphatidic acid signaling in development of neuropathic pain. *J Biol Chem* 2012;287:17608-17.
- Luxenburg C, Pasolli HA, Williams SE, Fuchs E. Developmental roles for Srf, cortical cytoskeleton and cell shape in epidermal spindle orientation. *Nat Cell Biol* 2011;13:203-14.
- Matsui T, Miyamoto K, Kubo A, Kawasaki H, Ebihara T, Hata K, et al. SASPase regulates stratum corneum hydration through profilaggrin-to-filaggrin processing. *EMBO Mol Med* 2011;3:320-33.
- Mendoza MC, Er EE, Blenis J. The Ras-ERK and PI3K-mTOR pathways: cross-talk and compensation. *Trends Biochem Sci* 2011;36:320-8.
- Mikelis CM, Palmby TR, Simaan M, Li W, Szabo R, Lyons R, et al. PDZ-RhoGEF and LARG are essential for embryonic development and provide a link between thrombin and LPA receptors and Rho activation. *J Biol Chem* 2013;288:12232-43.
- Ohta H, Sato K, Murata N, Damirin A, Malchinkhuu E, Kon J, et al. Ki16425, a subtype-selective antagonist for EDG-family lysophosphatidic acid receptors. *Mol Pharmacol* 2003;64:994-1005.
- Otsuka A, Doi H, Egawa G, Maekawa A, Fujita T, Nakamizo S, et al. Possible new therapeutic strategy to regulate atopic dermatitis through upregulating filaggrin expression. *J Allergy Clin Immunol* 2014;133:139-46 e1-10.
- Palmer CN, Irvine AD, Terron-Kwiatkowski A, Zhao Y, Liao H, Lee SP, et al. Common loss-of-function variants of the epidermal barrier protein filaggrin are a major predisposing factor for atopic dermatitis. *Nat Genet* 2006;38:441-6.
- Pendaries V, Malaisse J, Pellerin L, Le Lamer M, Nachat R, Kezic S, et al. Knockdown of filaggrin in a three-dimensional reconstructed human epidermis impairs keratinocyte differentiation. *J Invest Dermatol* 2014;134:2938-46.

- Piazza GA, Ritter JL, Baracka CA. Lysophosphatidic acid induction of transforming growth factors alpha and beta: modulation of proliferation and differentiation in cultured human keratinocytes and mouse skin. *Exp Cell Res* 1995;216:51-64.
- Presland RB, Boggess D, Lewis SP, Hull C, Fleckman P, Sundberg JP. Loss of normal profilaggrin and filaggrin in flaky tail (ft/ft) mice: an animal model for the filaggrin-deficient skin disease ichthyosis vulgaris. *J Invest Dermatol* 2000;115:1072-81.
- Riaz A, Huang Y, Johansson S. G-Protein-Coupled Lysophosphatidic Acid Receptors and Their Regulation of AKT Signaling. *Int J Mol Sci* 2016;17:215.
- Sandilands A, Sutherland C, Irvine AD, McLean WH. Filaggrin in the frontline: role in skin barrier function and disease. *J Cell Sci* 2009;122:1285-94.
- Shimomura Y, Wajid M, Ishii Y, Shapiro L, Petukhova L, Gordon D, et al. Disruption of P2RY5, an orphan G protein-coupled receptor, underlies autosomal recessive woolly hair. *Nat Genet* 2008;40:335-9.
- Shimomura Y, Wajid M, Petukhova L, Shapiro L, Chrisitiano AM. Mutations in the lipase H gene underlie autosomal recessive woolly hair/hypotrichosis. *J Invest Dermatol* 2009;129:622-8.
- Shinkuma S, Akiyama M, Inoue A, Aoki J, Natsuga K, Nomura T, et al. Prevalent LIPH founder mutations lead to loss of P2Y5 activation ability of PA-PLA1alpha in autosomal recessive hypotrichosis. *Hum Mutat* 2010;31:602-10.
- Simpson CL, Patel DM, Green KJ. Deconstructing the skin: cytoarchitectural determinants of epidermal morphogenesis. *Nat Rev Mol Cell Biol* 2011;12:565-80.
- Smith FJ, Irvine AD, Terron-Kwiatkowski A, Sandilands A, Campbell LE, Zhao Y, et al. Loss-of-function mutations in the gene encoding filaggrin cause ichthyosis vulgaris. *Nat Genet* 2006;38:337-42.
- Swaney JS, Chapman C, Correa LD, Stebbins KJ, Broadhead AR, Bain G, et al. Pharmacokinetic and pharmacodynamic characterization of an oral lysophosphatidic acid type 1 receptor-selective antagonist. *J Pharmacol Exp Ther* 2011;336:693-700.

- Tamaruya Y, Suzuki M, Kamura G, Kanai M, Hama K, Shimizu K, et al. Identifying specific conformations by using a carbohydrate scaffold: discovery of subtype-selective LPA-receptor agonists and an antagonist. *Angew Chem Int Ed Engl* 2004;43:2834-7.
- Thumkeo D, Watanabe S, Narumiya S. Physiological roles of Rho and Rho effectors in mammals. *Eur J Cell Biol* 2013;92:303-15.
- Treisman R, Alberts AS, Sahai E. Regulation of SRF activity by Rho family GTPases. *Cold Spring Harb Symp Quant Biol* 1998;63:643-51.
- Uehata M, Ishizaki T, Satoh H, Ono T, Kawahara T, Morishita T, et al. Calcium sensitization of smooth muscle mediated by a Rho-associated protein kinase in hypertension. *Nature* 1997;389:990-4.
- Vaezi A, Bauer C, Vasioukhin V, Fuchs E. Actin cable dynamics and Rho/Rock orchestrate a polarized cytoskeletal architecture in the early steps of assembling a stratified epithelium. *Dev Cell* 2002;3:367-81.
- van den Bogaard EH, Bergboer JG, Vonk-Bergers M, van Vlijmen-Willems IM, Hato SV, van der Valk PG, et al. Coal tar induces AHR-dependent skin barrier repair in atopic dermatitis. *J Clin Invest* 2013;123:917-27.
- van den Bogaard EH, Podolsky MA, Smits JP, Cui X, John C, Gowda K, et al. Genetic and pharmacological analysis identifies a physiological role for the AHR in epidermal differentiation. *J Invest Dermatol* 2015;135:1320-8.
- Williams JR, Khandoga AL, Goyal P, Fells JI, Perygin DH, Siess W, et al. Unique ligand selectivity of the GPR92/LPA5 lysophosphatidate receptor indicates role in human platelet activation. *J Biol Chem* 2009;284:17304-19.
- Yahagi S, Koike M, Okano Y, Masaki H. Lysophospholipids improve skin moisturization by modulating of calcium-dependent cell differentiation pathway. *Int J Cosmet Sci* 2011;33:251-6.

Yung YC, Stoddard NC, Mirendil H, Chun J. Lysophosphatidic Acid signaling in the nervous system. *Neuron* 2015;85:669-82.

ACCEPTED MANUSCRIPT



**FIGURE LEGENDS**

**Figure 1. LPA induces *FLG* expression in NHEKs.** (a) Protocol for the screening of candidate compounds that enhance *FLG* expression in NHEKs. Candidate compounds and calcium (final concentration 1.2 mM) were added to the cell culture medium, and cells were continuously cultivated for 3 days in the presence of 30 ng/ml IL-4. (b) Validation of the protocol using CP-690,550, a JAK inhibitor, as a positive control. Normalized fold changes in *FLG* gene expression are shown using *GAPDH* as the reference. Addition of CP-690,550 induced *FLG* expression in a concentration-dependent manner. Results are shown as mean  $\pm$  SEM (n = 12). \*\*\*\* $P < 0.0001$  (Kruskal–Wallis test with Dunn’s multiple comparisons test). (c) GPCR expression in NHEKs (Top 30). GPCR expression in NHEKs was examined using the TaqMan Human GPCR Array. The top 30 most highly expressed GPCRs are shown. The  $\Delta C_T$  shown represents an average of 3 independent experiments. (d) LPA induces *FLG* expression in NHEKs in a concentration-dependent manner. Normalized fold changes in *FLG* gene expression are shown using *GAPDH* as the reference. Results are shown as mean  $\pm$  SEM (n = 6). \* $P < 0.05$ , \*\*\* $P < 0.001$ , \*\*\*\* $P < 0.0001$  (Kruskal–Wallis test with Dunn’s multiple comparisons test).

**Figure 2. LPA-dependent *FLG* protein production in NHEKs.** (a) Western blotting analysis of pro*FLG*/*FLG* expression with a monoclonal anti-*FLG* antibody (clone AKH1) in the lysates of NHEKs subjected to the indicated treatments. High molecular weight smears corresponded to pro*FLG*/*FLG* protein. Note the increased level of high molecular weight pro*FLG* in LPA- or CP-690,550-treated cells. (b) Densitometric quantification of pro*FLG*/*FLG* protein levels relative to *GAPDH*, as shown in (a). Values were normalized to the value obtained in control vehicle-treated cells. Results are shown as mean  $\pm$  SEM (n = 3 for each condition). \*\* $P < 0.01$  (Kruskal–Wallis test

with Dunn's multiple comparisons test). (c) Representative immunofluorescence images of proFLG/FLG staining in NHEKs. Note the increase in proFLG/FLG-positive cells in the LPA treatment group (left). High magnification imaging (right) revealed the granular appearance of proFLG/FLG staining in NHEKs. Scale bars, 50  $\mu\text{m}$  (left), 20  $\mu\text{m}$  (middle) and 10  $\mu\text{m}$  (right). (d) Quantification of the percentage of FLG-positive cells induced by LPA treatment (n= 507 cells for vehicle control and n=704 cells for the 10  $\mu\text{M}$  LPA treatment group). (e) Time-lapse imaging of control vehicle-treated and LPA-treated NHEKs. LPA was added together with 1.2 mM  $\text{Ca}^{2+}$  at 0 h. Selected images acquired at 0, 6, 12, 24, 48 and 69 h are shown. Note the gradual change in morphology of LPA-treated NHEKs. Scale bars, 125  $\mu\text{m}$ .

**Figure 3. LPA induces *FLG* expression via the LPAR1/LPAR5-RHO-ROCK-SRF signaling pathway in NHEKs.** (a) Relative expression of the human LPA receptors in NHEKs, normalized to *LPAR1*. Results are shown as mean  $\pm$  SEM (n = 15). n.d. = not detected. (b) AM095, or (c) TCLPA54 suppressed LPA-induced *FLG* expression in a concentration-dependent manner. Normalized fold changes in *FLG* gene expression are shown using *GAPDH* as the reference. Results are shown as mean  $\pm$  SEM (n = 6). \* $P$  < 0.05, \*\* $P$  < 0.01, \*\*\* $P$  < 0.001, \*\*\*\* $P$  < 0.0001 (when compared with the vehicle control of the indicated antagonist dose group); # $P$  < 0.05, ## $P$  < 0.01 (when compared with the no-antagonist control for each corresponding LPA concentration across all groups). Statistical significance was evaluated using the Kruskal–Wallis test with Dunn's multiple comparisons test. Suppression of *LPAR1* (d) and *LPAR5* (e) gene expression and LPA-induced *FLG* gene expression (f) after siRNA-mediated knockdown of *LPAR1* and *LPAR5* in NHEKs. Two different siRNAs (#1, #2) were used for knockdown of each gene. Normalized fold changes in *LPAR1* (d), *LPAR5* (e) and *FLG* (f) expression are shown, using *GAPDH* as the

reference (mean  $\pm$  SEM; n = 6). Statistical significance was evaluated by one-way ANOVA; **(d)**: ( $F_{8,45} = 122.4$ ,  $P < 0.0001$ ), **(e)**: ( $F_{8,45} = 71.75$ ,  $P < 0.0001$ ) and **(f)**: ( $F_{8,45} = 21.99$ ,  $P < 0.0001$ ), followed by Bonferroni post-hoc test (\*\* $P < 0.01$ , \*\*\* $P < 0.001$ , \*\*\*\* $P < 0.0001$ ). **(g)** Concentration-dependent suppressive effect of Y-27632 on LPA-induced *FLG* expression. Normalized fold changes in *FLG* expression are shown using *GAPDH* as the reference. Results are shown as means  $\pm$  SEM (n = 6). \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$  (when compared with the vehicle control for each group of the same inhibitor dose); ## $P < 0.01$ , ### $P < 0.001$  (when compared with the no-inhibitor control for each corresponding LPA concentration across all groups). **(h)** LPA-dependent RHOA activation in NHEKs by RHOA-GTP pull-down assay. Data are representative of 5 independent experiments. **(i)** Quantification of the RHOA-GTP pull-down assay. Fold increase in RHOA-GTP is shown. Results are shown as means  $\pm$  SEM (n = 5). \* $P < 0.05$  (Kruskal–Wallis test with Dunn’s multiple comparisons test). **(j)** LPA-dependent activation of *SRF* transcription, as determined by Luciferase assay. Results are shown as means  $\pm$  SEM (n = 5-10). \*\* $P < 0.01$ , \*\*\*\* $P < 0.0001$  (Kruskal–Wallis test with Dunn’s multiple comparisons test). **(k)** Concentration-dependent inhibitory effects of CCG-1423 on LPA-induced *FLG* expression. Normalized fold changes in *FLG* expression are shown, using *GAPDH* as the reference. Results are shown as means  $\pm$  SEM (n = 3). \* $P < 0.05$  (when compared with the vehicle control for each group of the same inhibitor dose); # $P < 0.05$  (when compared with the no-inhibitor for each corresponding LPA concentration across all groups). Statistical significance was evaluated using the Kruskal–Wallis test with Dunn’s multiple comparisons test. **(l)** CCG-1423 suppressed LPA-induced *FLG* protein production. Result is a representative of 2 independent experiments.

**Figure 4. LPA induces expression of genes involved in keratinocyte differentiation and SRF-dependent transcription.** (a) Heat map of genes expressed in NHEKs treated with vehicle control (left), 10  $\mu$ M LPA (middle) or 1  $\mu$ M CP-690,550 (right). Microarray analysis was performed using the Agilent Gene Expression platform; SurePrint G3 GE 8x60K. Normalized intensity values of significant 2-fold change entities were subjected to hierarchical clustering using Euclidean distance and Ward's linkage ( $n = 3$  for each condition). (b) *FLG* and *GAPDH* expression levels extracted from data shown in (a). (c) The left-hand Volcano plot displays 4244 entities of upregulated genes and 3386 entities of downregulated genes with a 2-fold cutoff and statistical significance ( $P < 0.05$ ) associated with 10  $\mu$ M LPA treatment (when compared with vehicle control). The right-hand Volcano plot displays 86 entities of upregulated genes and 199 entities of downregulated genes with a 2-fold cutoff and statistics significance ( $P < 0.05$ ) associated with 1  $\mu$ M CP-690,550 treatment (when compared with vehicle control). (d) Enriched GO terms for genes with altered expression induced by LPA. Gene ontology analysis was based on DAVID Bioinformatics resources 6.8 (NIH), and the top 30 GO terms of genes with a 2-fold cutoff and statistical significance are shown. (e) Heat map of genes included in GO terms for cilium assembly, keratinocyte differentiation and epidermis development. Heat map of MRTF-SRF downstream genes (right) was categorized according to a previously published report (Esnault et al., 2014). (f) qRT-PCR analysis of the expression of representative genes from the heat map (e). Normalized fold changes in the expression of the respective genes are shown using *GAPDH* as the reference. Results are shown as means  $\pm$  SEM ( $n = 11$ ). \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ , \*\*\*\* $P < 0.0001$  (Kruskal–Wallis test with Dunn's multiple comparisons test).

**Figure 5. LPA promotes proFLG/FLG production in a 3D human epidermal skin model. (a)**

Protocol for evaluating the effect of LPA on the human epidermal 3D skin culture. Keratinocytes differentiation was induced by air lift and a subsequent 6-day culture. The 3D human epidermal skin cultures were then treated with vehicle control or 10  $\mu$ M LPA for 4 consecutive days. At the end of day 10, the samples were harvested and subsequently analyzed. **(b)** Western blotting analysis of proFLG/FLG protein expression in lysates of LPA-treated 3D human epidermal skin culture models. Note that LPA-induced proFLG/FLG production is dependent on ROCK activity. Data represent means  $\pm$  SEM (n = 4) and are normalized to the no-treatment control group. \* $P$  < 0.05 (Kruskal–Wallis test with Dunn’s multiple comparisons test). **(c)** Representative immunofluorescence images of FLG (green) and Hoechst (magenta) staining in vehicle control- or LPA-treated 3D human epidermal skin culture models (upper panels). Note the increase in thickness of the *stratum corneum* in the LPA-treated 3D culture. Scale bars, 50  $\mu$ m. Lower panels are enlarged images of granule keratinocytes highlighted by the dotted boxes in the upper panels. Arrows indicate increased intensity and size of FLG-containing keratohyalin granules. Scale bars, 10  $\mu$ m. **(d)** Quantification of the thickness of the *stratum corneum* shown in (c). Data represent means  $\pm$  SEM from 9 samples. **(e)** Quantification of normalized relative fluorescence intensity of FLG staining shown in (c). Data represent means  $\pm$  SEM from 9 samples and are normalized to the vehicle-treated control group. \*\* $P$  < 0.01, \*\*\*\* $P$  < 0.0001 (Mann-Whitney test, two-tailed).

**Figure 6. Topical application of LPA ameliorates skin barrier function in mice. (a)**

Protocol for the evaluation of skin barrier function by topical application of LPA to the ear skin of male C57BL/6N mice. **(b)** qRT-PCR analysis of representative skin barrier genes, including *Ivl*, *Sprrr4* and *Flg*. Data represent means  $\pm$  SEM (n = 7), \* $P$  < 0.05, (Student’s *t*-test, two-tailed). **(c)** H&E

staining (upper panels) and Flg immunohistochemistry analysis (lower panels) of paraffin sections of LPA-treated ear skin. Note the increased Flg staining intensity in the granule layer of the ear skin of LPA-treated mice. Representative images of control vehicle cream-treated skin (left, n = 10) and 1% LPA cream-treated skin (right, n = 10) are shown. Scale bars, 50  $\mu\text{m}$ . (d) Transmission electron microscopy (TEM) analysis of mouse ear skin. Representative images of control vehicle cream-treated skin (left, n = 10) and 1% LPA cream-treated skin (right, n = 10) are shown. Note the larger size of keratohyalin granules (white arrows) in 1% LPA cream-treated skin. SC, *stratum corneum*; SG, *stratum granulosum*. Scale bars, 200 nm. (e) Protocol for the evaluation of the therapeutic effects of LPA on skin barrier function in the AEW dry skin mouse model. (f) The dry skin mouse model was used to measure Transepidermal Water Loss (TEWL) from dorsal skin before and 24 h after topical application of control vehicle cream or 1% LPA-containing cream. Results represent means  $\pm$  SEM (n = 10-12). Statistical significance was determined by two-way ANOVA ( $F_{1,40} = 5.830$ ,  $P = 0.0204$ ), followed by Bonferroni post-hoc test ( $*P < 0.05$ ). (g) Symptom sum scores for the dorsal skin of AEW dry skin mice before and 24 h after the topical application of control vehicle cream or 1% LPA-containing cream. Results represent means  $\pm$  SEM (n = 5-6). Statistical significance was determined by two-way ANOVA ( $F_{1,18} = 25.54$ ,  $P < 0.0001$ ), followed by Bonferroni post-hoc test ( $***P < 0.001$ ). (h) Representative stereomicroscope picture of dorsal skin prior to AEW disruption at day 0 (no-treatment control), before topical application of control vehicle cream or 1% LPA-containing cream at day 2, and 24 h after topical application of control vehicle cream or 1% LPA-containing cream. Arrows indicate signs of skin dryness including flaking cornea, wrinkle/crease lines, and redness. Scale bars, 500  $\mu\text{m}$ .

Figure 1

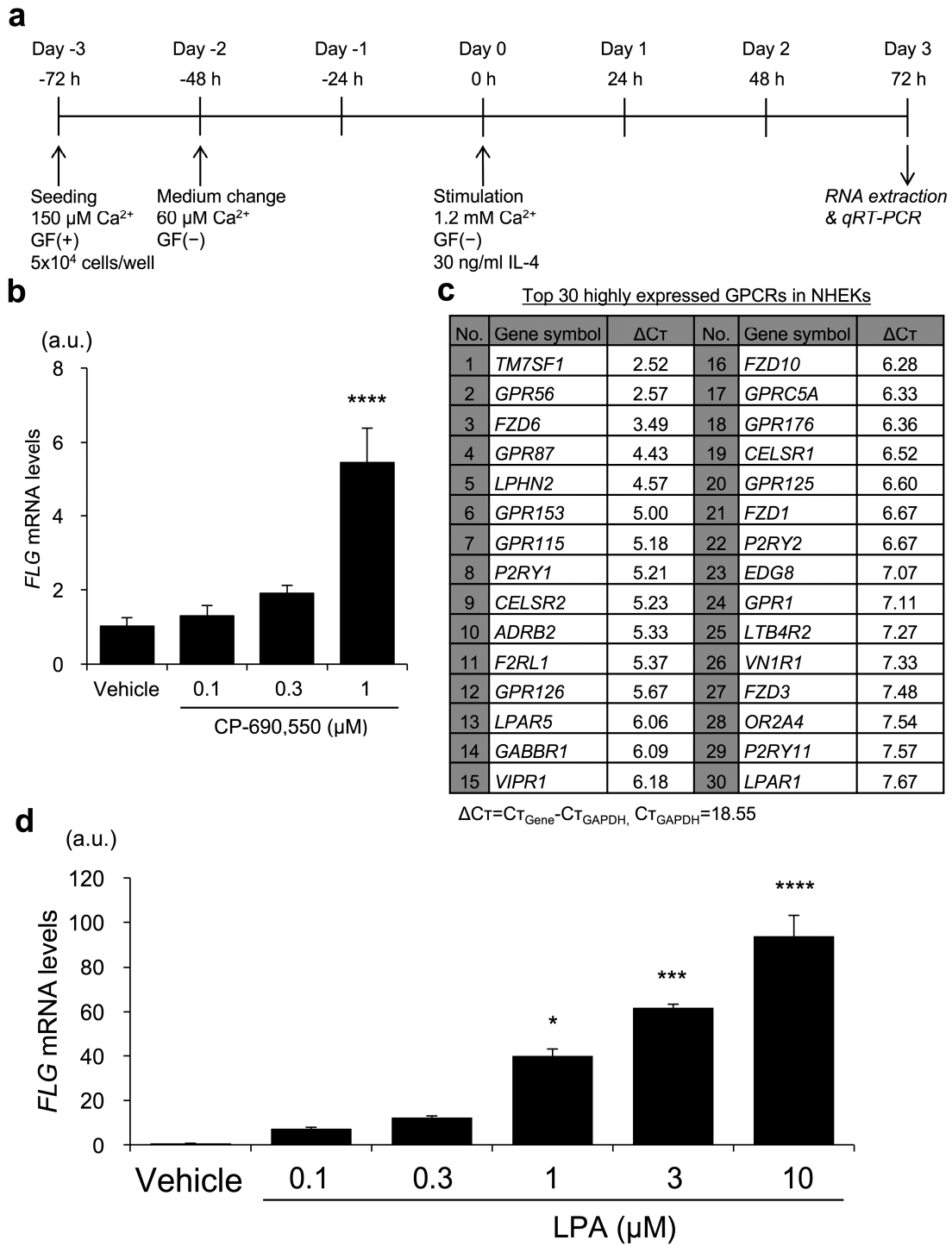




Figure 2

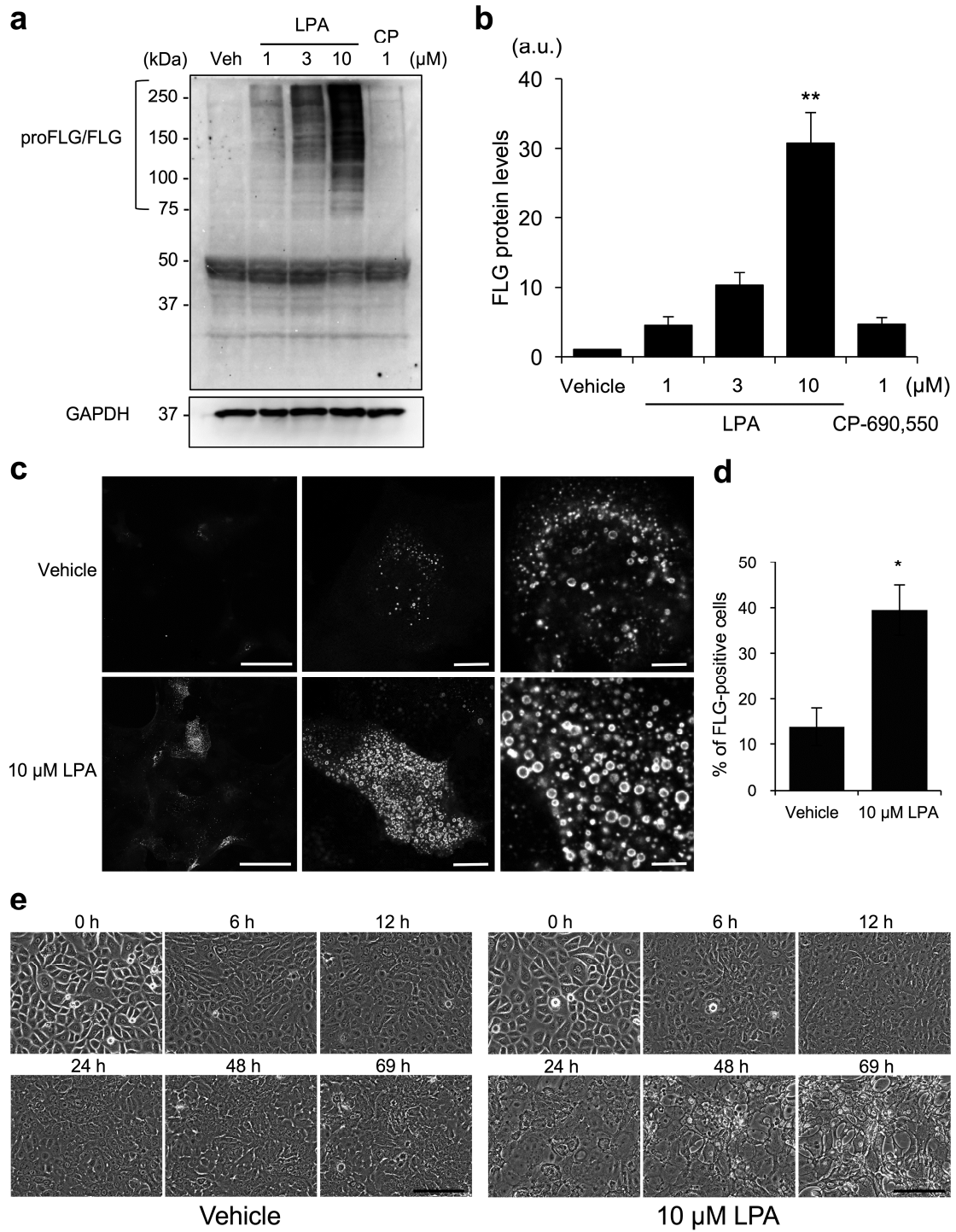




Figure 3

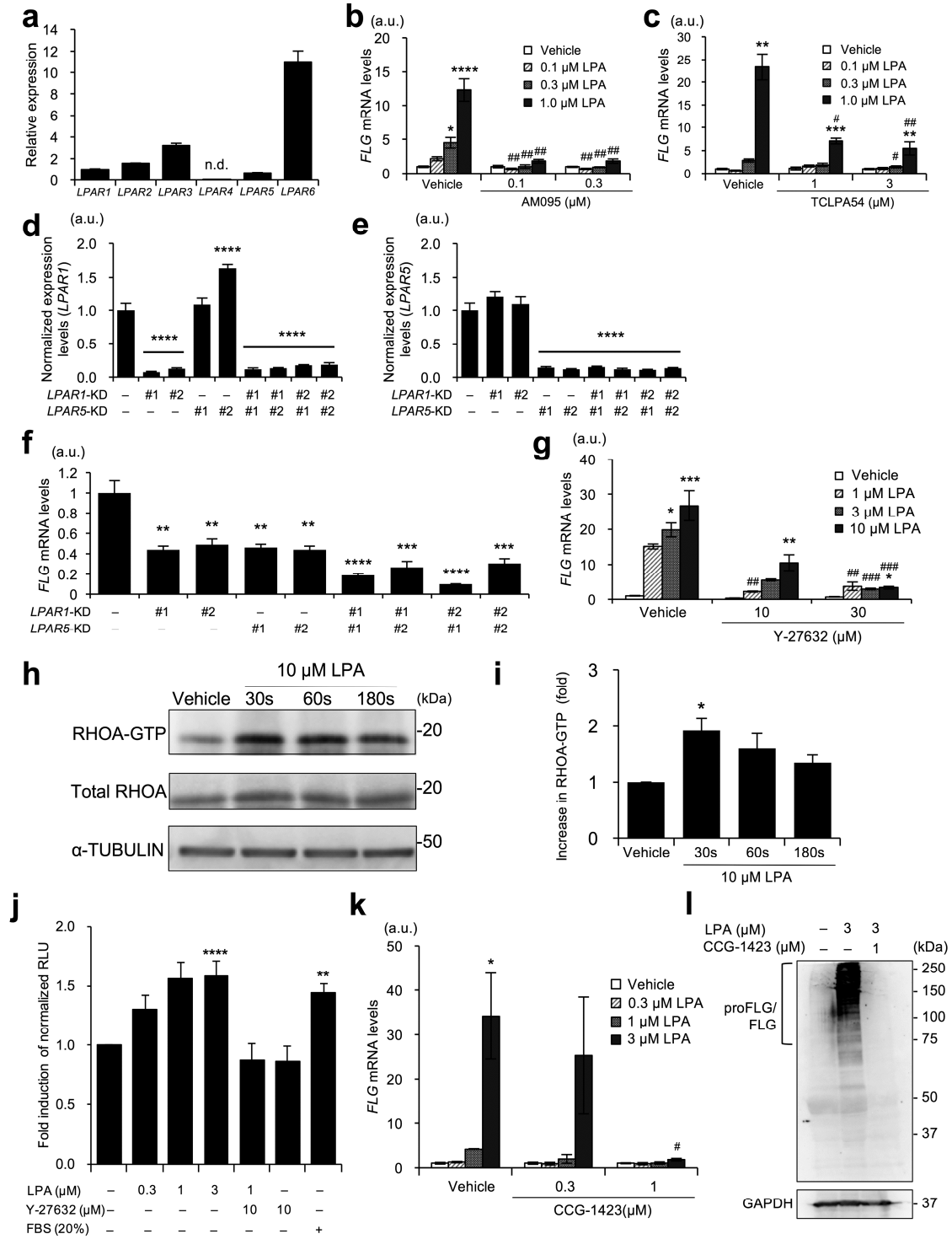


Figure 4

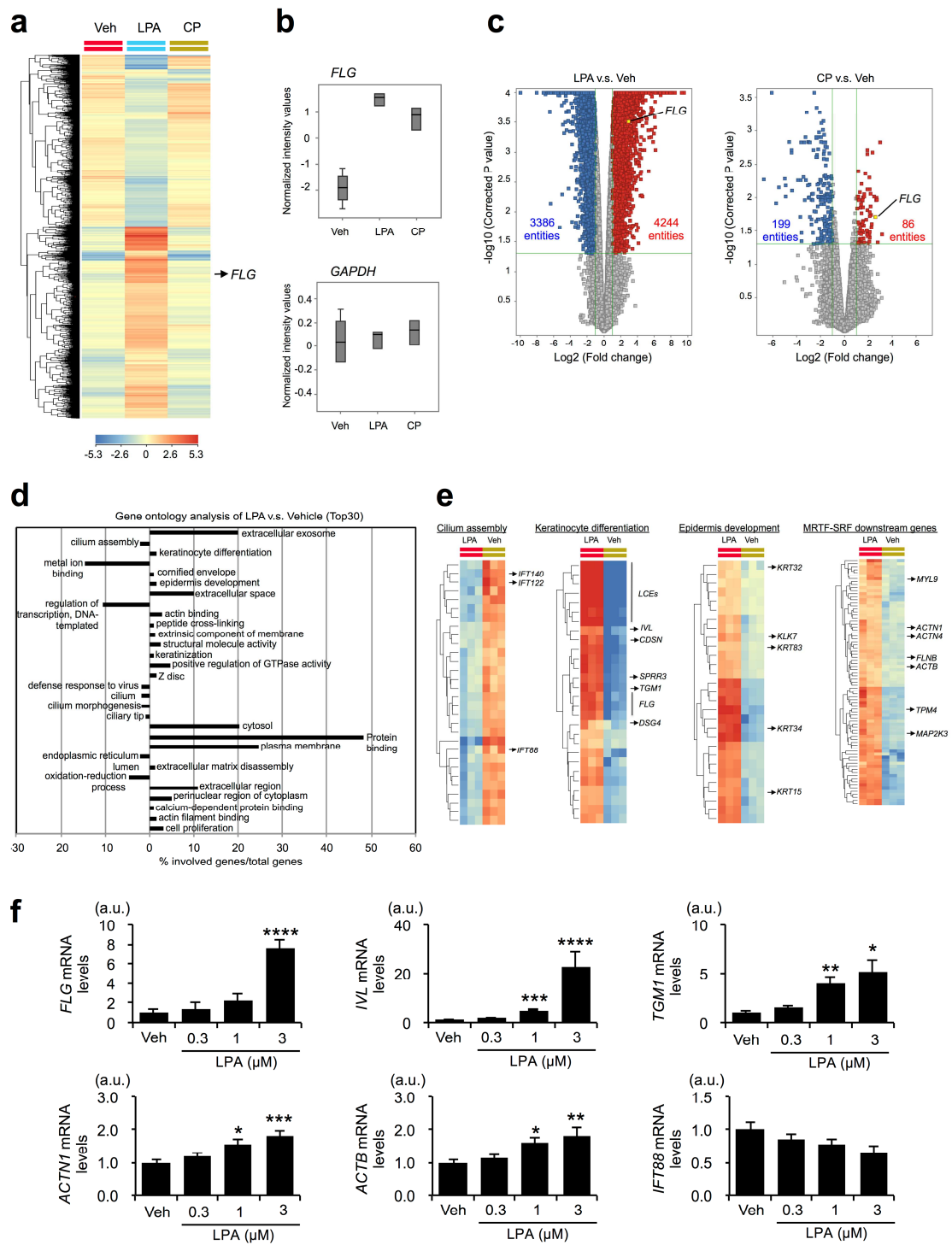


Figure 5

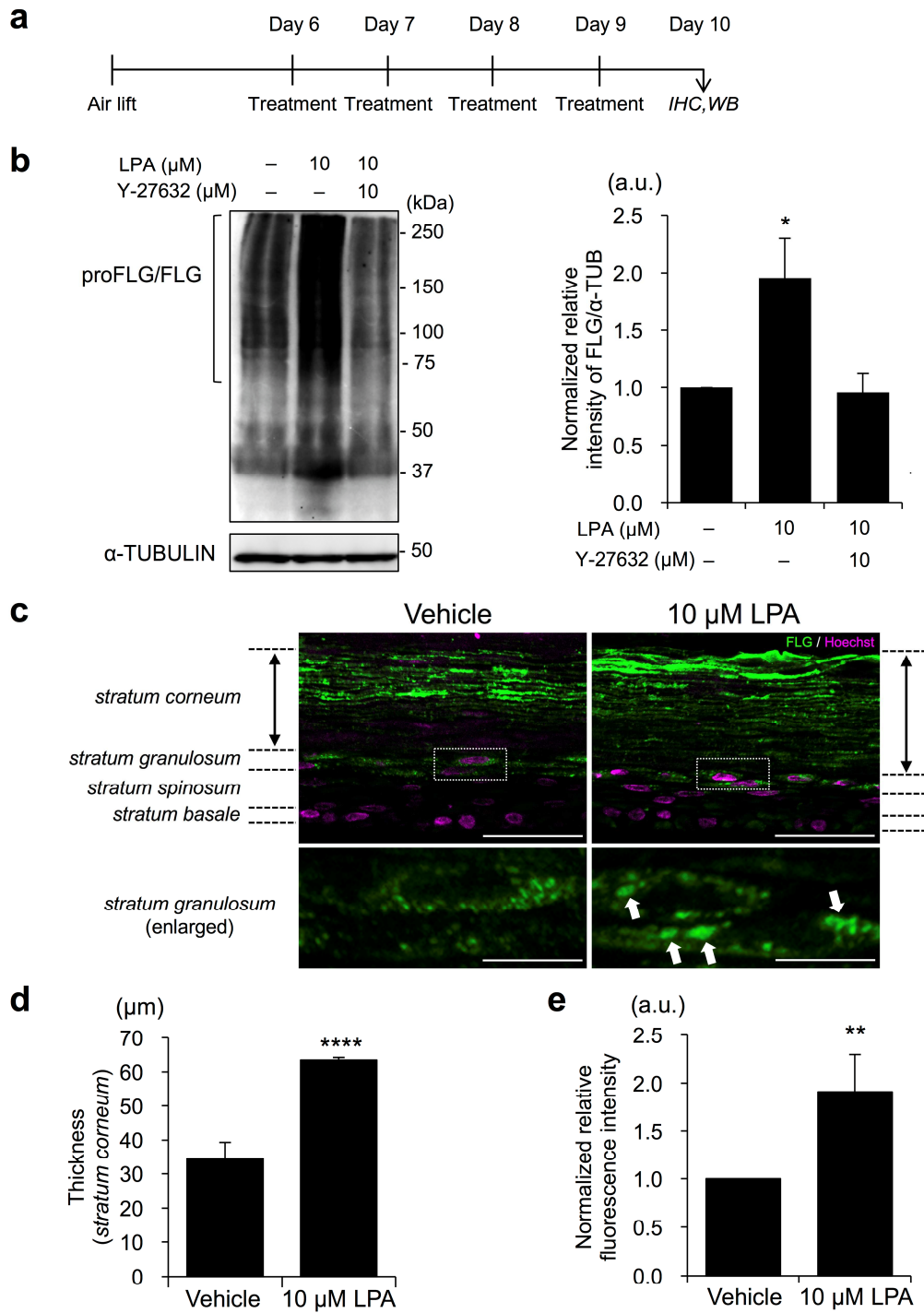
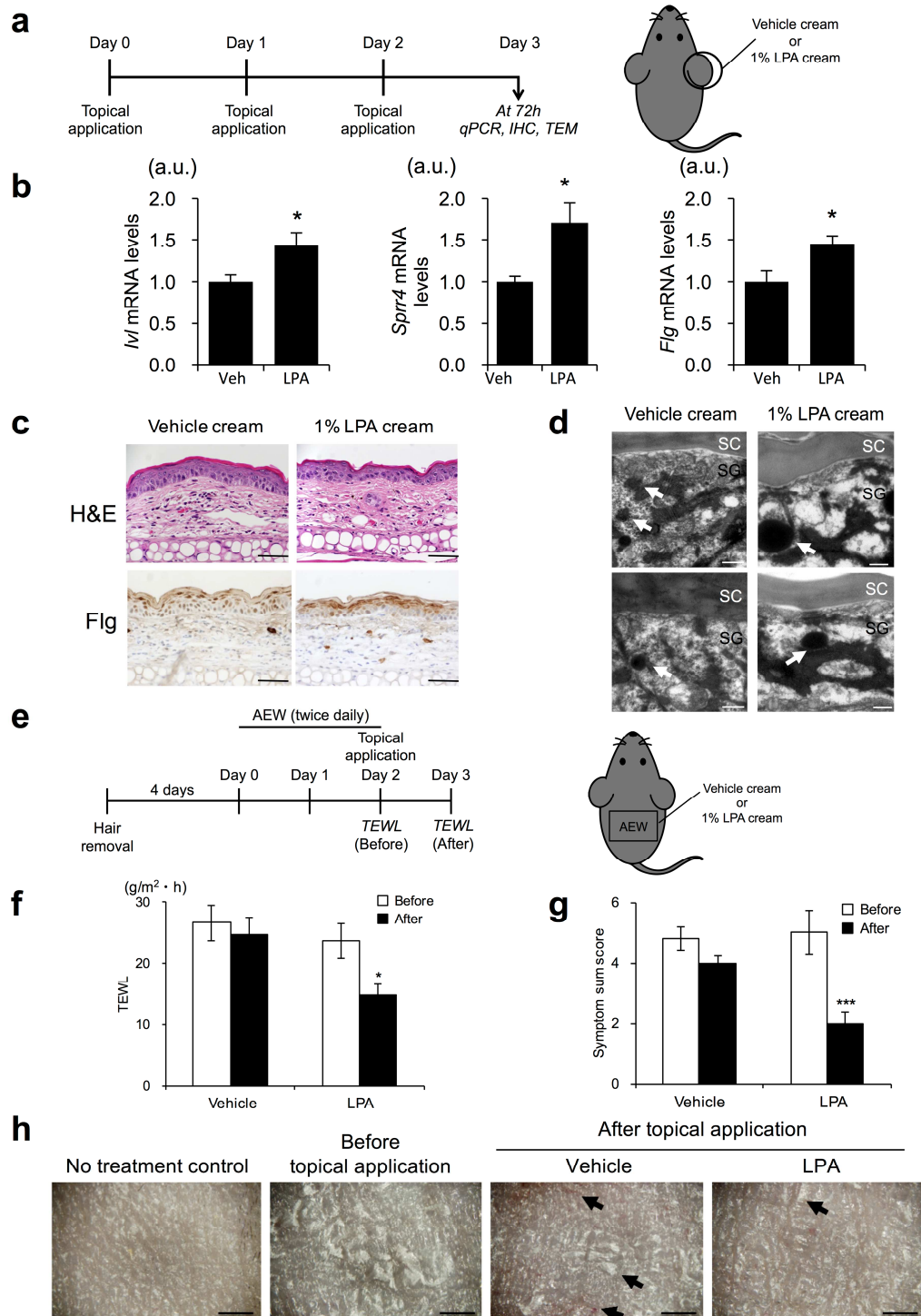


Figure 6



## SUPPLEMENTARY MATERIALS

### Methods

#### **Cell culture and the three-dimensional (3D) human skin model**

Normal Human Epidermal Keratinocytes (NHEKs), which were certified free of mycobacterial infection and large chromosomal rearrangements, were obtained from KURABO (Japan), cultured at 37°C under 5% CO<sub>2</sub>, and used for experiments during low passages (2 or 3). In our pilot experiments, we used two different lots of NHEKs (Lot#04228, #03457), both prepared from neonate skin of Caucasian origin (male). We found that both lots of NHEKs demonstrated a similar extent of FLG induction upon CP-690,550 or LPA treatment and therefore we described the results for lot#04228 cells in this paper. NHEKs were maintained in an undifferentiated state in HuMedia KG-2 media (KURABO). To induce differentiation, cells were cultured in EpiLife medium containing 60 μM Ca<sup>2+</sup> (Gibco) without HuMedia-KG growth factors (KURABO). Day 6 *in vitro* three-dimensional (3D) human skin model cultures were obtained from JTEC (Japan) and cultured as previously described ([Eaglstein and Falanga, 1998](#)).

#### **Time-lapse imaging**

Time-lapse imaging was performed using a BZ-X700 microscope (Keyence, Japan) equipped with a 10× dry objective lens (Keyence, Japan) and a chamber box to stably control the temperature (37°C) and CO<sub>2</sub> level (5%). Phase-contrast images were acquired every 5 min for 69 h. Cell proliferation was quantified by counting cell

division events in the 1.5 mm<sup>2</sup> imaging field before and after the addition of 1.2 mM Ca<sup>2+</sup> or 10 μM LPA plus 1.2 mM Ca<sup>2+</sup> for 5 h.

### **Animals**

C57BL/6N mice (male) were purchased from SLC (Shizuoka, Japan) and maintained on a 12-hour light/dark cycle at a temperature of 24°C and humidity of 50 ± 10% under specific pathogen-free (SPF) conditions. Animal care and experiments were conducted in accordance with the US National Institutes of Health Guide for the Care and Use of Laboratory Animals and approved by the Institutional Animal Care and Use Committee of Kyoto University Graduate School of Medicine.

### **siRNA-mediated knockdown in NHEKs**

Silencer Select, pre-designed siRNA duplexes that target two distinct sequences of each human LPA receptor and RHOA were purchased from Life Technologies, Japan. The sequences were as follows:

LPAR1-1: CAUCUGCUGGACUCCUGGAUUGGUU and  
AACCAAUCCAGGAGUCCAGCAGAUG,

LPAR1-2: CCAUCUCUACUCCAUCCCUGUAAU and  
AUUACAGGGAUGGAAGUAGAGAUGG,

LPAR2-1: GCCUACCUCUCCUCAUGUCCACA and  
UGUGGAACAUGAGGAAGAGGUAGGC,

LPAR2-2: UCCACCCGCGAGUCUGUCCACUAUA and

UAUAGUGGACAGACUCGCGGGUGGA,

LPAR3-1: CCAUUUACAGCAGGAGUUACCUUGU and

ACAAGGUAACUCCUGCUGUAAAUGG,

LPAR3-2: UCUCCGCAUACAAGUGGGUCCAUCA and

UGAUGGACCCACUUGUAUGCGGAGA,

LPAR5-1: GCAGCUGCAUCUCCUGAUGCUCAU and

AUGAGCAUCAGGAAGAUGCAGCUGC,

LPAR5-2: CGCCUGCACUUGGUGGUCUACAGCU and

AGCUGUAGACCACCAAGUGCAGGCG,

LPAR6-1: GCAUGUUCAGCAUGGUGUUUGUGCU and

AGCACAAACACCAUGCUGAACAUGC,

LPAR6-2: UGGCCAUUUGGAGAUUUACUUUGUA and

UACAAAGUAAAUCUCCAAAUGGCCA,

RHOA-1: CACAGUGUUUGAGAACUAU and

AUAGUUCUCAAACACUGUG,

RHOA-2: GGCUUUACUCCGUAACAGA and

UCUGUUACGGAGUAAAGCC.

NHEKs were transfected with siRNAs (at a final concentration of 5 nM) using Lipofectamine RNAiMAX (Life Technologies, Japan), according to the manufacturer's instructions. Silencer Select Negative control no. 1 (Life Technologies Japan, Ltd.,

Japan) was used as a negative control in all experiments. Cells were used for assays at 24 h post-transfection.

### **Chemicals, neutralizing antibody and recombinant proteins**

Oleoyl-L- $\alpha$ -lysophosphatidic acid sodium salt (Sigma), Oleoyl-L- $\alpha$ -lysophosphatidic acid (Avanti), adenosine 5'-[ $\beta$ -thio]diphosphate trilithium salt (Sigma), salbutamol (Sigma), CP-690,550 (Selleck), Ki16425 (Sigma), AM095 (Sigma), TCLPA54 (Tocris), GRI 977143 (Tocris), T13 ([Tamaruya et al., 2004](#)), Y-27632 (Wako), U0126 (Sigma), Wortmannin (Tocris), recombinant human EGF (Sigma), PD168393 (Sigma), TGF $\alpha$  neutralizing antibody (R&D Systems), recombinant human IL-4 (R&D Systems) and recombinant mouse IL-4 (R&D Systems) were reconstituted according to the manufacturers' instructions. To protect LPA from oxidation, the compound was stored in a glass vial with a tight-fitting teflon lid under a direct stream of nitrogen gas.

### **Quantitative reverse transcription – polymerase chain reaction (qRT-PCR)**

mRNA was purified from cells using Reliaprep (Promega), and reverse-transcribed to cDNA using PrimeScript RT Master Mix (TaKaRa). cDNA, primers, and SYBR Premix ExTaq (Tli RNaseH Plus) (TaKaRa) were mixed in a 96-well PCR plate, and quantitative PCR was performed using a CFX96 Real-Time System (Bio-Rad). Primers used were as follows:

human *FLG* F: 5'-AGTCACGTGGCAGTCCTCACA-3',

human *FLG* R: 5'-TCTAAACCCGGATTCACCATAATCA-3',



human *GAPDH* F: 5'-ATGACATCAAGAAGGTGGTG-3',  
human *GAPDH* R: 5'-CATACCAGGAAATGAGCTTG-3',  
human *RHOA* F: 5'-CTGGTGATTGTTGGTGATGG-3',  
human *RHOA* R: 5'-GCGATCATAATCTTCCTGCC-3',  
human *LPAR1* F: 5'-AATCGGGATACCATGATGAGTCTT-3',  
human *LPAR1* R: 5'-CCAAGGAGTCCAGCAGATGATAAA-3',  
human *LPAR2* F: 5'-CAGCCTGGTCAAGACTGT TGT-3',  
human *LPAR2* R: 5'-TGCAGGACTCACAGCCTAAA-3',  
human *LPAR3* F: 5'-ACGGTGATGACTGTCTTAGGG-3',  
human *LPAR3* R: 5'-CACCTTTTCACATGCTGCAC-3',  
human *LPAR4* F: 5'-AAAGATCATGTACCCAATCACCTT-3',  
human *LPAR4* R: 5'-CTTAAACAGGGACTCCATTCTGAT-3',  
human *LPAR5* F: 5'-CGCCATCTTCCAGATGAAC-3',  
human *LPAR5* R: 5'-TAGCGGTCCACGTTGATG-3',  
human *LPAR6* F: 5'-GGTAAGCGTTAACAGCTCCCCT-3',  
human *LPAR6* R: 5'-TTTGAGGACGCAGATGAAAATGT-3',  
human *TGMI* F: 5'-GCACCACACAGACGAGTATGA-3',  
human *TGMI* R: 5'-GGTGATGCGATCAGAGGATTC-3',  
human *IFT88* F: 5'-TCCTGAAACTTCACGCAATCC-3',  
human *IFT88* R: 5'-GACCACCTGCATTAGCCATTC-3',  
human *ACTNI* F: 5'-CCCGAGCTGATTGACTACGG-3',  
human *ACTNI* R: 5'-GCAGTTCCAACGATGTCTTCG-3',

mouse *Ivl* F: 5' -ATGTCCCATCAACACACACTG-3',  
mouse *Ivl* R: 5' -TGGAGTTGGTTGCTTTGCTTG-3',  
mouse *Sprrr4* F: 5' - TCAGCCACCTCCTACCAAATG -3',  
mouse *Sprrr4* R: 5' - GCTGGGTTAGTTGTGCTCCTC -3',  
mouse *Flg* F: 5' - CTCTCCCAGGGTCAGCGTAA-3',  
mouse *Flg* R: 5' - ACTCATATCCTCCCTGACCACT-3',  
mouse *Lpar1* F: 5' - AGCCATGAACGAACAACAGTG-3',  
mouse *Lpar1* R: 5' - CATGATGAACACGCAAACAGTG-3',  
mouse *Lpar2* F: 5' - TGCTACTACAACGAGACCATCG-3',  
mouse *Lpar2* R: 5' - ATGGCTGCAATAACCAGCAGA-3',  
mouse *Lpar3* F: 5' - CAAGCGCATGGACTTTTTCTAC-3',  
mouse *Lpar3* R: 5' - GAAATCCGCAGCAGCTAAGTT-3',  
mouse *Lpar4* F: 5' - AGTGCCTCCCTGTTTGTCTTC-3',  
mouse *Lpar4* R: 5' - GCCAGTGGCGATTAAAGTTGTAA-3',  
mouse *Lpar5* F: 5' - ACCTGGACATGATGTTTGCCA-3',  
mouse *Lpar5* R: 5' - GAGACCAGTCGCCAATACCA-3',  
mouse *Lpar6* F: 5' - TTTGTGCCCTACAACATCAACC-3',  
mouse *Lpar6* R: 5' - CGATGCAGAGAGTGATCGGG-3',  
mouse *Gapdh* F: 5' - ATGACATCAAGAAGGTGGTG-3',  
mouse *Gapdh* R: 5' - CATAACCAGGAAATGAGCTTG-3'.

### **GPCR array**

mRNA was purified from cells and reverse-transcribed to cDNA as described above. The GPCR array was performed by qRT-PCR using the TaqMan Array Human GPCR Panel (Applied Biosystems) according to the manufacturer's instructions.

### **Western blotting**

Cells were lysed in Laemmli buffer containing 1% SDS and a protease inhibitor cocktail (Roche), and subjected to SDS-PAGE. Separated proteins were transferred to a 0.45  $\mu$ m-pore PVDF membrane (IPVH304FO, Millipore). After a 30 min block in membrane blocking agent (GE Healthcare), membranes were probed with primary and secondary antibodies according to standard procedures. Primary antibodies used were anti-FLG (1:250, clone AKH1, Santa Cruz, sc-66192), anti- $\alpha$ -TUBULIN (1:2,000, clone DM1A, Abcam, ab7291) and anti-GAPDH (1:10,000, Ambion, Am4300). The secondary antibody used was horseradish peroxidase (HRP)-conjugated anti-mouse IgG (1:4,000, GE Healthcare Life Sciences). The specificity of the anti-FLG antibody (clone AKH1, Santa Cruz, sc-66192) for western blotting analysis has been demonstrated previously ([Otsuka et al., 2014](#)). Immunoreactive bands were detected using the ECL prime Western Blotting Detection Reagent (RPN2232, GE Healthcare). Images of blots were acquired using a ChemiDoc XRS imaging system (Bio-Rad) and processed using Adobe Photoshop CS5 software (Adobe Inc.). ImageJ software (NIH) was used for densitometry analysis.

### **SRF luciferase reporter assay**

NHEKs at 80–90% confluency were transiently transfected with pGL4.34[*luc2P*/SRF-RE/Hygro] (Promega) and pGL4.74[*hRluc*/TK] (Promega) using TransIT-Keratinocyte Transfection Reagent (Mirus Bio) according to the manufacturer's protocol. Transfection efficiency was approximately 30%. Twenty-four hours after transfection, cells were pre-treated with the control vehicle DMSO or 10  $\mu$ M Y-27632 for 2 h and then treated for 24 h with serial concentrations of LPA (0.3, 1, 3  $\mu$ M) or 20% FBS as a positive control. Relative luminescence units (RLU) of Firefly and *Renilla* luciferase activities were determined using the Dual-Glo luciferase assay kit (Promega) according to the manufacturer's instructions. Luminescence was measured using a GloMax 96 multiplate luminometer. Firefly luciferase activity was normalized to that of the *Renilla* luciferase. Fold induction was calculated from normalized firefly values as  $RLU_{\text{inducing compound}} / \text{normalized firefly } RLU_{\text{control}}$ .

### **Microarray analysis**

Cy3-labeled complementary RNA was synthesized using a Low Input Quick Amp Labeling Kit (Agilent Technologies, Santa Clara, CA) according to the manufacturer's instructions. Complementary RNAs were fragmented and hybridized for 16 h at 65°C to the Agilent SurePrint G3 Human Gene Expression 8×60K Microarray (Agilent Technologies). The microarray slides were scanned with the Agilent DNA Microarray Scanner System and analyzed with Feature Extraction Software (Version 11.0.1.1, Agilent Technologies). Microarray data were analyzed with GeneSpring GX (Version

14.5, Agilent Technologies). Signal values for each probe were normalized to the 75<sup>th</sup> percentile of all samples. Genes with differential expression were extracted using a moderated t test and subjected to the Benjamini and Hochberg method for correction of *P* values ( $P < 0.05$ ) and 2-fold change. Hierarchical tree clustering was performed using Euclidian distance and Ward linkage. The Gene ontology analysis was based on DAVID Bioinformatics resources (Version 6.8, NIH, <https://david.ncifcrf.gov>) (Huang da et al., 2009a; Huang da et al., 2009b).

### **RHOA pull-down assay**

$1 \times 10^6$  NHEKs were seeded into a 100-mm diameter petri-dish. NHEKs were then treated with LPA for the indicated times (30, 60, and 180 s). The pull-down assay for active RHOA (Thermo Scientific) was performed according to the manufacturer's instructions.

### **Immunocytochemistry**

Cultured cells were washed with phosphate-buffered saline (PBS), fixed with 4% paraformaldehyde (PFA) in PBS for 10 min, permeabilized in PBS containing 0.3% Triton X-100 for 10 min, blocked in PBS containing 1% bovine serum albumin (BSA) for 30 min, and then immunostained with primary antibodies (anti-FLG, 1:100, clone AKH1, Santa Cruz, sc-66192) for 1 h at room temperature, followed by Alexa Fluor-488- or -546-conjugated secondary antibodies (1:200, Invitrogen). Fluorescence images were acquired with a SP8 laser scanning confocal microscope (Leica) equipped

with a 10× NA 0.4, HCX PL APO CS dry objective lens (Leica) and a 100× NA 1.4 HCX PL APO CS oil immersion objective lens (Leica). Images were processed using Adobe Photoshop CS5 software (Adobe Inc.).

### **Immunohistochemistry**

For paraffin sections, mouse skin specimens were fixed in 4% formalin at 4°C overnight. Fixed skin specimens were then embedded in paraffin and cut into sections of 4 μm thickness. Haematoxylin and eosin (H&E) staining was performed according to a standard protocol. To process samples for immunohistochemistry, paraffin sections were incubated with 10 mM sodium citrate buffer at 95°C for 40 min for antigen retrieval and then treated with 0.3% H<sub>2</sub>O<sub>2</sub> for 5 min to quench endogenous peroxidase activity, followed by blocking with 5% BSA in PBS for 20 min. The sections were subsequently incubated with anti-Filaggrin antibody (Covance) at 1:500 dilution overnight at 4°C, and then with horseradish peroxidase (HRP)-conjugated mouse secondary antibody. HRP activity was detected using the liquid DAB+ substrate chromogen system (Dako) according to the instructions of Vectastain Elite ABC Kit (Vector Laboratories Inc.). Phase-contrast images were acquired with an OLYMPUS BX53F microscope (Olympus) equipped with a UPlanFI 40×/0.75 microscope objective lens (Olympus) and a DP70 CCD camera (Olympus). Images were processed using Adobe Photoshop CS5 software (Adobe Inc.).

For frozen sections, mouse skin specimens were fixed in 4% PFA at 4°C overnight, cryoprotected in 0.1 M phosphate buffer (PB) containing 30% sucrose, frozen in

Tissue-Tek OCT compound (Sakura), and then cut into sections of 5  $\mu\text{m}$  thickness using a cryostat (Leica). To process cryosections for immunohistochemistry, the sections were washed with PBS three times for 5 min each. Antigen retrieval was carried out by boiling the sections in 10 mM citrate buffer (pH 5.8) using a pressure cooker. The sections were incubated in blocking buffer (PBS containing 1% normal donkey serum (Jackson ImmunoResearch) or 1% normal goat serum (Jackson ImmunoResearch), and 0.3% Triton X-100 for 1 h at room temperature. Next, the sections were incubated overnight at 4°C with anti-FLG antibody (Santa Cruz) diluted 1:200 in blocking buffer. After three washes with 0.3% Triton X-100 in PBS, the sections were subsequently incubated with secondary antibodies coupled to Alexa Fluor-488, -555, or -633 (Invitrogen). Hoechst 33258 (Invitrogen) was used for nuclear staining. Phalloidin conjugated with Alexa Fluor-488, -546, -555, or -633 (Invitrogen) was used for F-actin staining. Fluorescent images were acquired using a SP5 laser scanning confocal microscope (Leica) equipped with a 40 $\times$  NA 1.3, HC PL APO2 CS2 oil immersion objective lens (Leica) and a SP8 laser scanning confocal microscope (Leica) equipped with a 100 $\times$  NA 1.4 HCX PL APO CS oil immersion objective lens (Leica). Images were processed using Adobe Photoshop CS5 software (Adobe Inc.). ImageJ software (NIH) was used for quantification and image analysis.

### **Topical application of LPA cream**

Because of the hydrophobic nature of LPA, a 1% LPA cream for topical application was prepared as the follows. Oleoyl-L- $\alpha$ -lysophosphatidic acid sodium salt (LPA, Sigma)

was added to a cream composed of the following ingredients (all percentages represent concentration according to weight): 56% milliQ water, 10% propylene glycol (Nacalai), 10% paraffin liquid, 5% vaseline (Nacalai), 10% glycerol monostearate (Alfa aesar), 6% 1-hexadecanol (Nacalai), and 2% polyoxyethylene hexadecyl ether (Nacalai). Control vehicle cream formulation was the same as above except that the proportion of milliQ water was increased to 57%. The lipid and water phases were heated separately to 70°C, and then combined and homogenized using a T10 basic ULTRA-TURRAX Homogenizer (IKA) before finally cooling. LPA was added prior to the cream reaching room temperature. Control vehicle cream (25 mg) or 1% LPA cream (25 mg) was applied topically to both surfaces of the right ear for 3 consecutive days.

#### **AEW dry skin mouse model**

To induce dry skin, C57BL/6N mice were treated with acetone/ether/water (AEW) according to a previously published protocol, with minor modifications ([Amano et al., 2015](#)). Briefly, hair was removed to expose the dorsal skin of each mouse. The exposed skin was then treated daily with a mixture of acetone and diethyl ether (1:1) for 20 s and then with water for 20 s. Each day, the severity of dryness was evaluated before topical application. The symptom sum score was derived from the sum of individual symptom scores and was categorized as follows; 0 (none), 1 (mild), 2 (moderate), and 3 (severe) for scaling/flaking cornea, skin wrinkling/creasing, and redness.

#### **Transmission electron microscopy (TEM)**



Conventional transmission electron microscopy (TEM) was performed as previously described ([Ishida-Yamamoto et al., 2005](#)). Briefly, small samples of skin were fixed in half-strength Karnovsky fixative, followed by further fixation in 1% osmium tetroxide. After *en-bloc* staining with uranyl acetate, specimens were dehydrated in ethanol and embedded in Epon812 (Taab). Ultrathin sections were stained with uranyl acetate and lead citrate.

### **Primary mouse keratinocytes**

Primary mouse keratinocytes were prepared from newborn wild-type mice (C57BL/6N, postnatal day 0 to 1), essentially as described ([Li et al., 2017](#)). Briefly, the whole skin was peeled off the body and incubated overnight at 4°C in keratinocyte basal media (EpiLife medium (Gibco)) supplemented with 60  $\mu\text{M}$   $\text{Ca}^{2+}$ , defined growth supplements (dGS, Invitrogen), 100 units/mL penicillin, 100  $\mu\text{g}/\text{mL}$  streptomycin, and 0.25  $\mu\text{g}/\text{mL}$  amphotericin B) containing dispase (4 mg/mL). After 14–18 h treatment with dispase, the skin was washed in PBS to remove excess dispase, and the dermis then removed from the skin using a pair of forceps. The remaining epidermis was incubated at room temperature for 20 min in Trypsin-like enzyme (TrypLE, Invitrogen) with gentle agitation. Cells were then released from the epidermal sheet by mechanical rubbing in media. Single cell suspensions were filtered through a 100  $\mu\text{m}$ -pore nylon mesh, and centrifuged for 5 min at  $180 \times g$ . Cell pellets were gently resuspended in keratinocyte basal media and seeded at a density of  $5 \times 10^4$  cells/cm<sup>2</sup> in tissue culture dishes pre-coated with gelatin (Invitrogen) to maintain them in an undifferentiated state. To

induce differentiation, the cells were cultured in EpiLife medium containing 200  $\mu\text{M}$   $\text{Ca}^{2+}$  without dGS for 48–72 h.

### **Statistical analysis**

Excel (Microsoft) and Prism (GraphPad Software) were used for statistical analyses. Data (means  $\pm$  standard error of the mean (SEM)) were analyzed either by the Student's *t*-test (two-tailed), Mann-Whitney test (two-tailed), Kruskal-Wallis test with Dunn's multiple comparisons tests, or by one-way or two-way analysis of variance (ANOVA) followed by Bonferonni post-hoc tests.

### **Supplementary References**

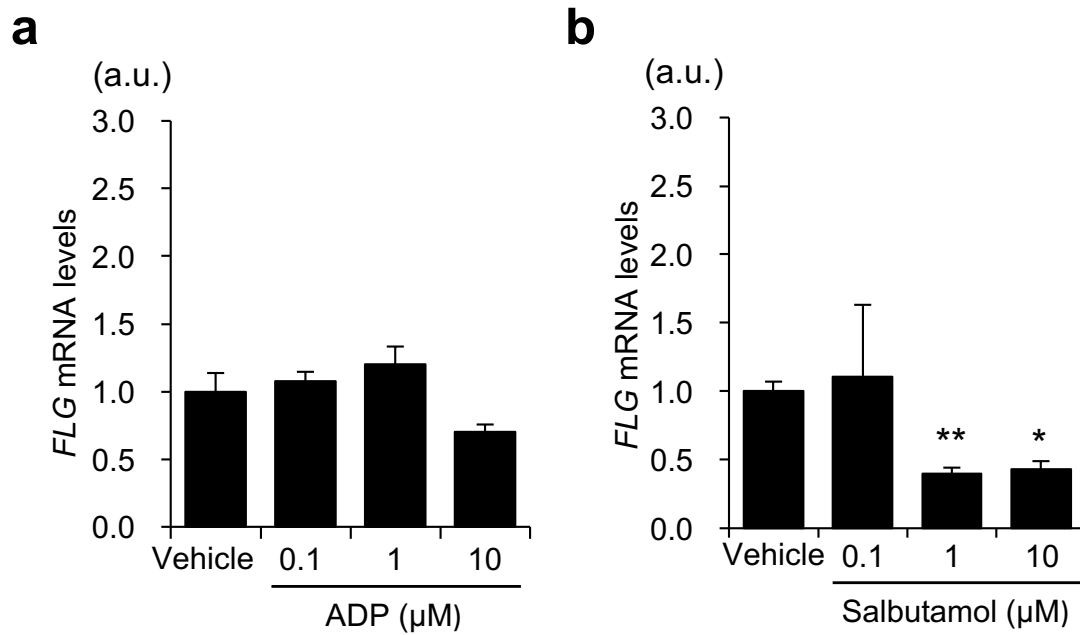
Amano W, Nakajima S, Kunugi H, Numata Y, Kitoh A, Egawa G, et al. The Janus kinase inhibitor JTE-052 improves skin barrier function through suppressing signal transducer and activator of transcription 3 signaling. *J Allergy Clin Immunol* 2015;136:667-77.

Eaglstein WH, Falanga V. Tissue engineering and the development of Apligraf a human skin equivalent. *Advances in wound care : the journal for prevention and healing* 1998;11(4 Suppl):1-8.

Huang da W, Sherman BT, Lempicki RA. Bioinformatics enrichment tools: paths toward the comprehensive functional analysis of large gene lists. *Nucleic Acids Res* 2009a;37:1-13.

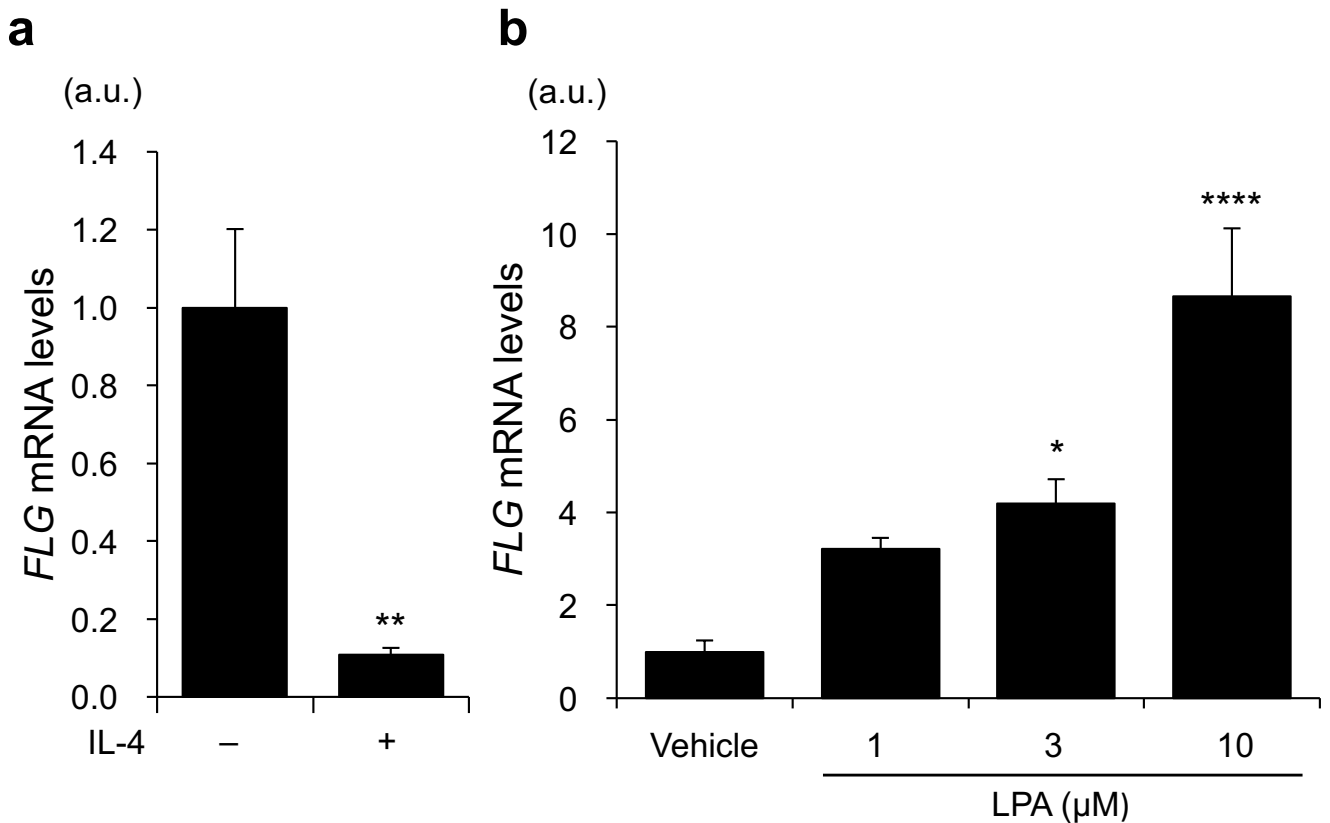
- Huang da W, Sherman BT, Lempicki RA. Systematic and integrative analysis of large gene lists using DAVID bioinformatics resources. *Nat Protoc* 2009b;4:44-57.
- Ishida-Yamamoto A, Deraison C, Bonnart C, Bitoun E, Robinson R, O'Brien TJ, et al. LEKTI is localized in lamellar granules, separated from KLK5 and KLK7, and is secreted in the extracellular spaces of the superficial stratum granulosum. *J Invest Dermatol* 2005;124:360-6.
- Li F, Adase CA, Zhang L. Isolation and culture of primary mouse keratinocytes from neonatal and adult mouse skin. *J Vis Exp* 2017;(125):10.3791/56027.
- Otsuka A, Doi H, Egawa G, Maekawa A, Fujita T, Nakamizo S, et al. Possible new therapeutic strategy to regulate atopic dermatitis through upregulating filaggrin expression. *J Allergy Clin Immunol* 2014;133:139-46.
- Tamaruya Y, Suzuki M, Kamura G, Kanai M, Hama K, Shimizu K, et al. Identifying specific conformations by using a carbohydrate scaffold: discovery of subtype-selective LPA-receptor agonists and an antagonist. *Angew Chem Int Ed Engl* 2004;43:2834-7.

## Supplementary Figure S1



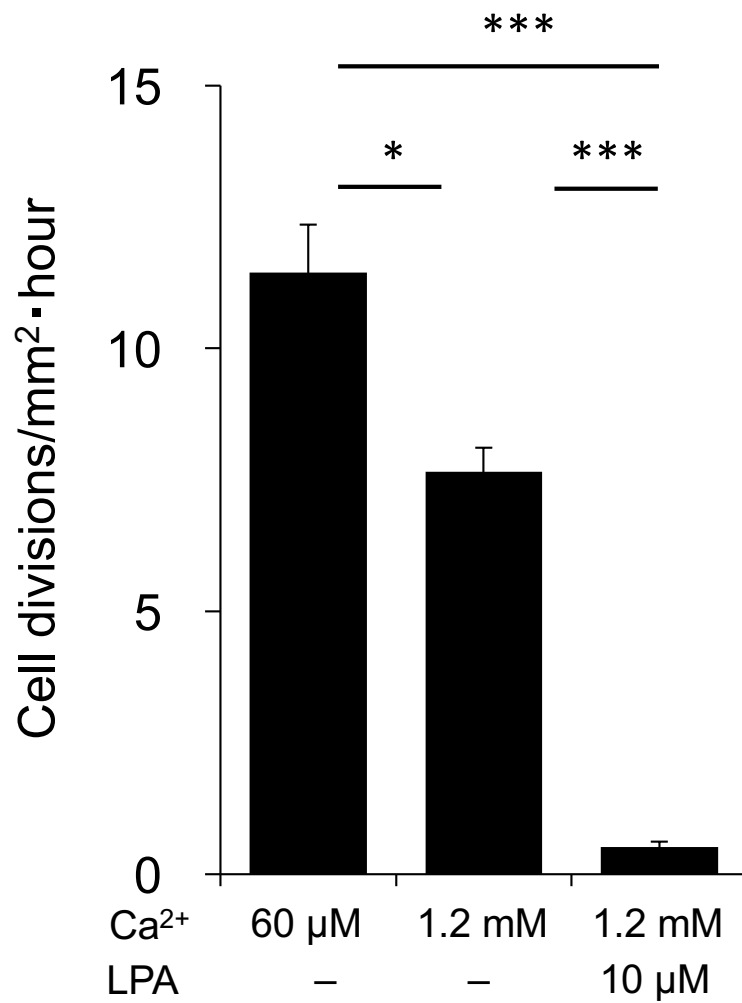
**Supplementary Figure S1. ADP and salbutamol do not induce *FLG* expression in NHEKs.** ADP (a) or salbutamol (b) were added to the cell culture and *FLG* mRNA expression was determined by qRT-PCR. Normalized fold changes in *FLG* gene expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 6). \* $P$  < 0.05, \*\* $P$  < 0.01 (Kruskal-Wallis test with Dunn's multiple comparisons test).

## Supplementary Figure S2

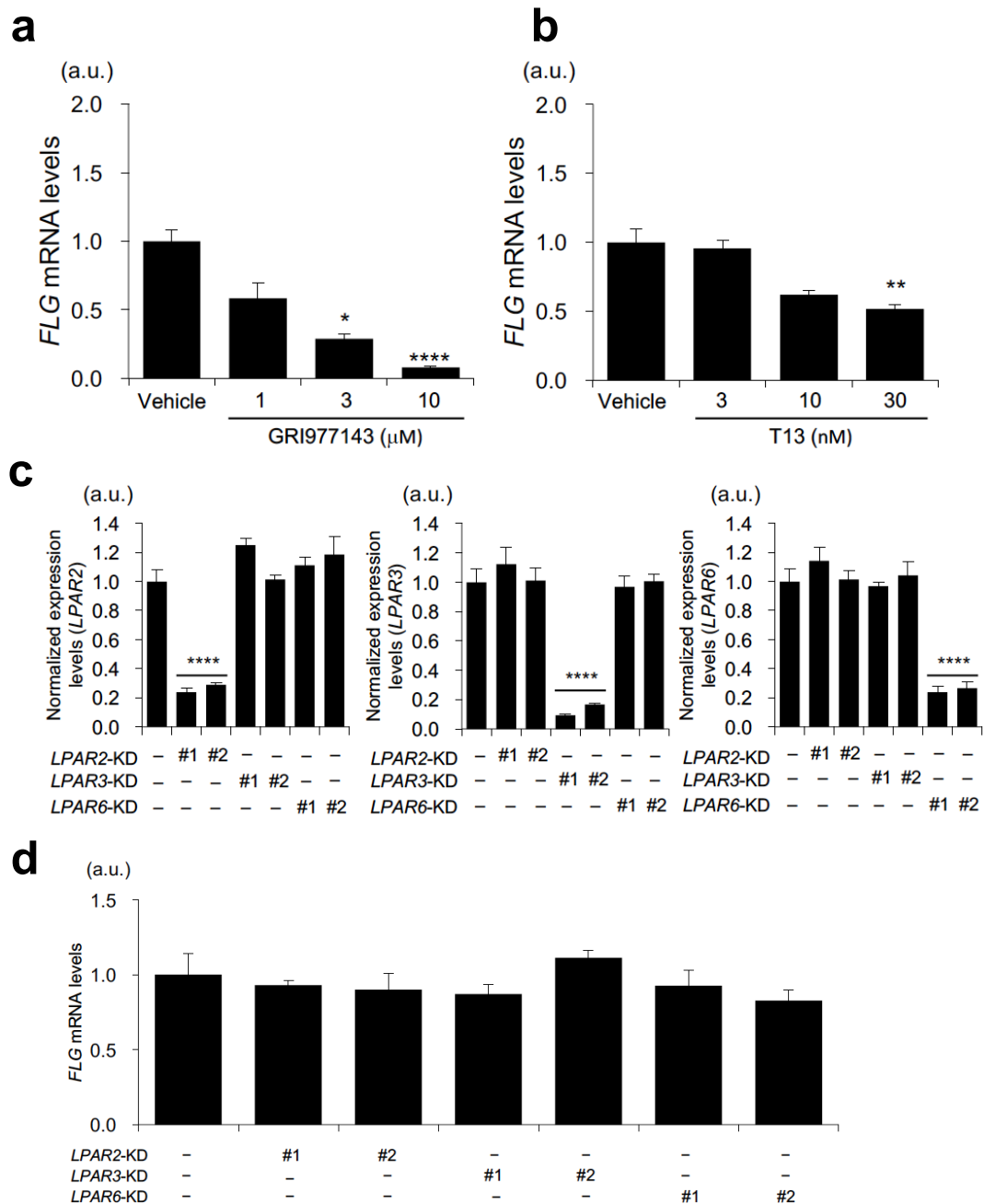


**Supplementary Figure S2. Effect of IL-4 on basal *FLG* expression and LPA-induced *FLG* expression in NHEKs in the absence of IL-4.** (a) IL-4 (30 ng/ml) suppresses basal *FLG* expression in NHEKs. *FLG* expression was determined by qRT-PCR. Normalized fold changes in *FLG* expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 6). \*\* $P < 0.01$  (Mann-Whitney test, two-tailed). (b) LPA induces *FLG* expression in NHEKs in the absence of IL-4. Assays were conducted according to the protocol shown in Figure 1a, except that IL-4 was not included. *FLG* expression was determined by qRT-PCR. Normalized fold changes in *FLG* expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 6). \* $P < 0.05$ , \*\*\*\* $P < 0.0001$  (Kruskal-Wallis test with Dunn's multiple comparisons test).

## Supplementary Figure S3

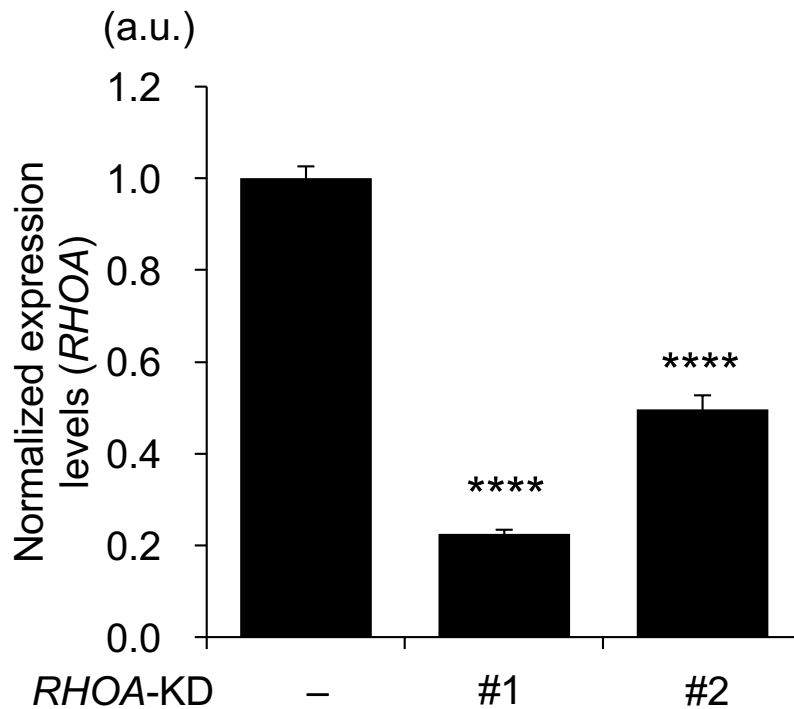


**Supplementary Figure S3. LPA suppresses cell proliferation.** Cell proliferation was quantified by counting cell division events per mm<sup>2</sup> per hour during time-lapse imaging. Results represent means ± SEM (n = 8 for control and n = 4 for 1.2 mM Ca<sup>2+</sup> or 10 μM LPA + 1.2 mM Ca<sup>2+</sup>). \**P* < 0.05, \*\*\**P* < 0.001 (Kruskal-Wallis test with Dunn's multiple comparisons test).

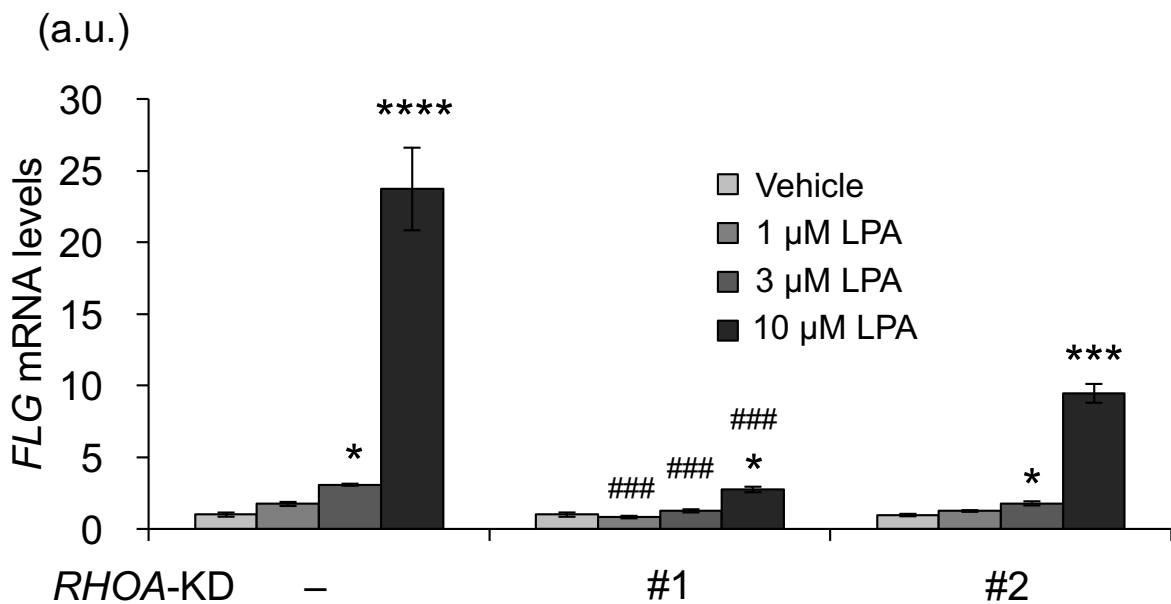


**Supplementary Figure S4. LPAR2, LPAR3 and LPAR6 are not involved in LPA-induced *FLG* expression in NHEKs.** GRI977143, a selective LPAR2 agonist (a), and T13, a selective LPAR3 agonist (b), do not induce *FLG* expression in NHEKs. *FLG* expression was determined by qRT-PCR. Normalized fold changes in *FLG* gene expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 6). \* $P$  < 0.05, \*\* $P$  < 0.01, \*\*\*\* $P$  < 0.0001 (Kruskal-Wallis test with Dunn's multiple comparisons test). (c) siRNA-mediated knockdown of *LPAR2*, *LPAR3*, and *LPAR6* in NHEKs as determined by qRT-PCR. Two different siRNAs (#1, #2) were used for knockdown of each gene. Normalized fold changes in *LPAR2*, *LPAR3*, and *LPAR6* gene expression are shown using *GAPDH* as the reference (mean  $\pm$  SEM) (n = 6). Statistical significance was evaluated by one-way ANOVA; *LPAR2*: ( $F_{6,35} = 43.61$ ,  $P < 0.0001$ ), *LPAR3*: ( $F_{6,35} = 37.52$ ,  $P < 0.0001$ ), *LPAR6*: ( $F_{6,35} = 31.18$ ,  $P < 0.0001$ ), followed by Bonferroni post-hoc test (\*\*\*\* $P$  < 0.0001). (d) LPA (1  $\mu\text{M}$ ) was added 48 h after siRNA transfection. Cells were then cultured for 3 days and *FLG* expression was determined by qRT-PCR. Normalized fold changes in *FLG* gene expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 6). Statistical significance was evaluated by one-way ANOVA.

a

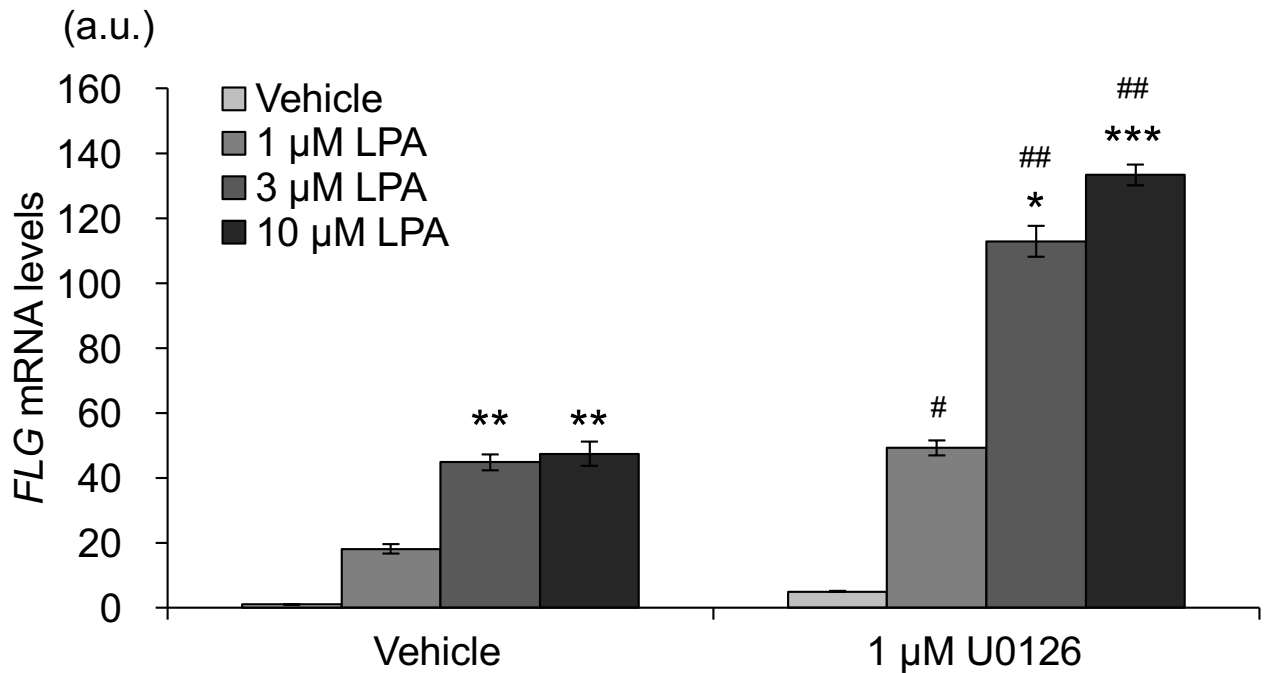
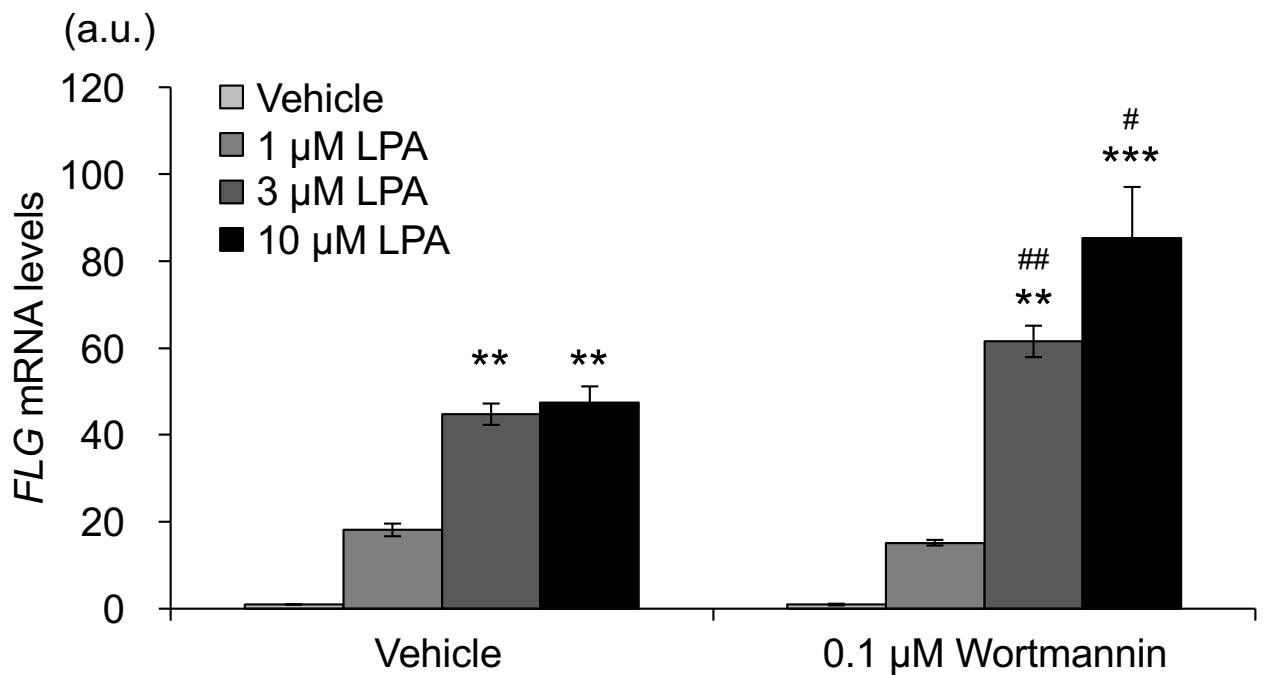


b

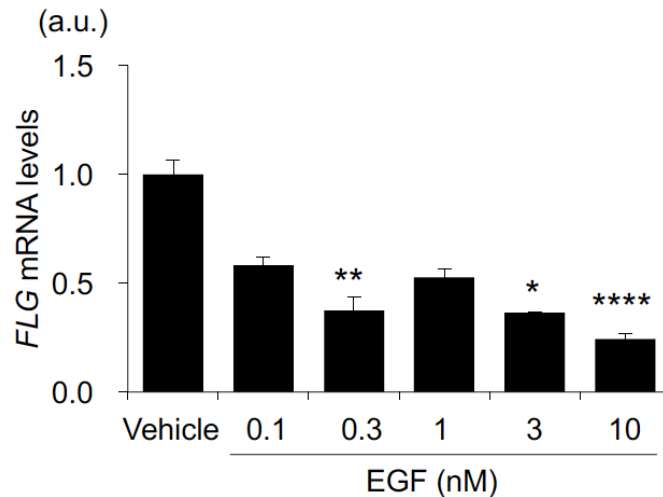
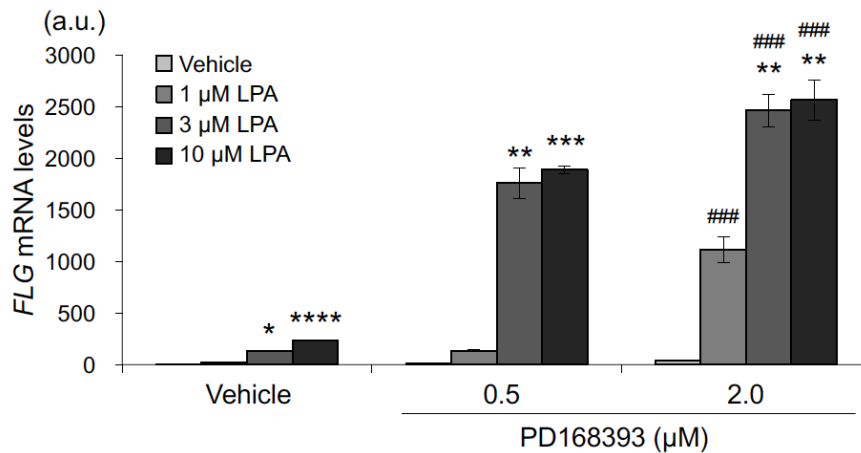
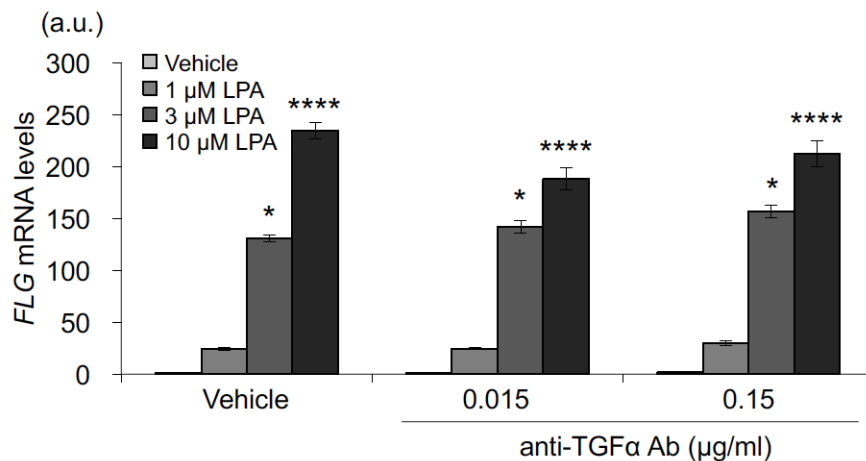


**Supplementary Figure S5. RHOA is indispensable for LPA-induced *FLG* expression in NHEKs.** (a) siRNA-mediated knockdown of *RHOA* in NHEKs as determined by qRT-PCR. Two different siRNAs (#1, #2) were used for knockdown of *RHOA*. Normalized fold changes in *RHOA* gene expression are shown using *GAPDH* as the reference (mean  $\pm$  SEM) (n = 5). Statistical significance was evaluated by one-way ANOVA followed by Bonferroni post-hoc test (\*\*\*\* $P$  < 0.0001). (b) Vehicle or the indicated concentrations of LPA were added 48 h after siRNA transfection. Cells were then cultured for 3 days and *FLG* expression was determined by qRT-PCR. Normalized fold changes in *FLG* gene expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 6). \* $P$  < 0.05, \*\*\* $P$  < 0.001, \*\*\*\* $P$  < 0.0001 (when compared with the vehicle-treated control within the indicated KD experimental group); ### $P$  < 0.001 (when compared with the no-*RHOA*-KD control for each corresponding LPA concentration across all groups). Statistical significance was evaluated using the Kruskal–Wallis test with Dunn’s multiple comparisons test.



**a****b**

**Supplementary Figure S6. LPA-induced *FLG* expression in NHEKs is not suppressed by MEK or PI3K inhibition.** Evaluation of the effect of U0126, a MEK inhibitor (a), or Wortmannin, a PI3K inhibitor (b), on LPA-induced *FLG* expression in NHEKs. Normalized fold changes in *FLG* expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 6). \* $P$  < 0.05, \*\* $P$  < 0.01, \*\*\* $P$  < 0.001 (when compared with vehicle control for each group of the indicated inhibitor dose); # $P$  < 0.05, ## $P$  < 0.01 (when compared with the no-inhibitor control for each corresponding LPA concentration across all groups). Statistical significance was evaluated using the Mann-Whitney test (two-tailed).

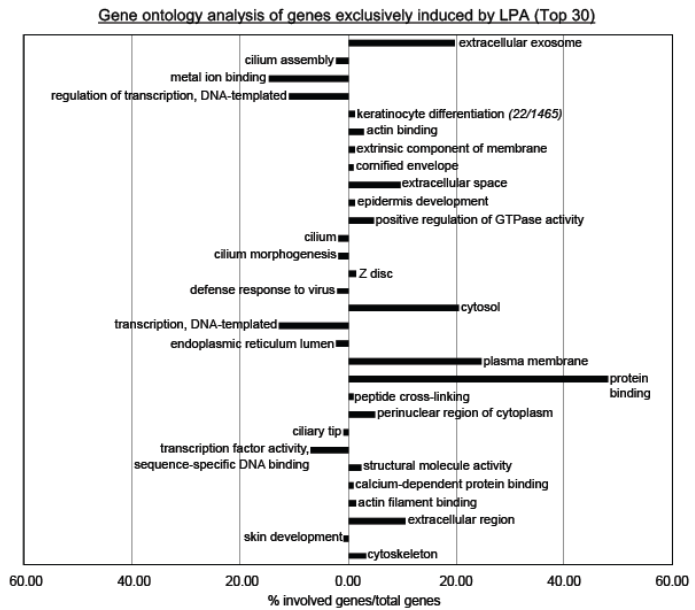
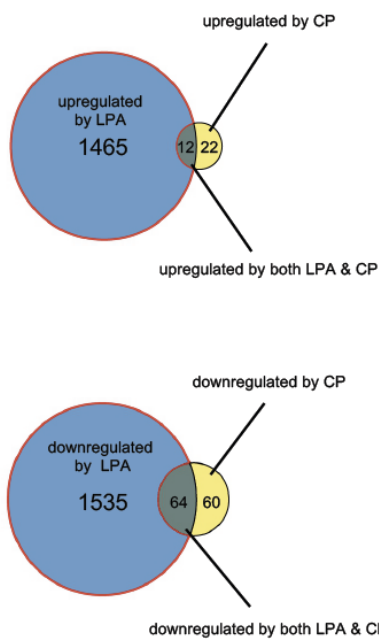
**a****b****c****Supplementary Figure S7. Evaluation of the effect of EGF signaling on *FLG* expression in NHEKs.**

Evaluation of the effect of EGF (a), PD168393, an EGFR-specific inhibitor (b), and a TGF $\alpha$  neutralizing antibody (c) on *FLG* expression in NHEKs. Normalized fold changes in *FLG* expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 6). \* $P$  < 0.05, \*\* $P$  < 0.01, \*\*\* $P$  < 0.001, \*\*\*\* $P$  < 0.0001 (when compared with the vehicle control for each group of the indicated dose of inhibitor or neutralizing antibody); ### $P$  < 0.001 (when compared with the no-inhibitor control for each corresponding LPA concentration across all groups). Statistical significance was evaluated using the Kruskal–Wallis test with Dunn’s multiple comparisons test.

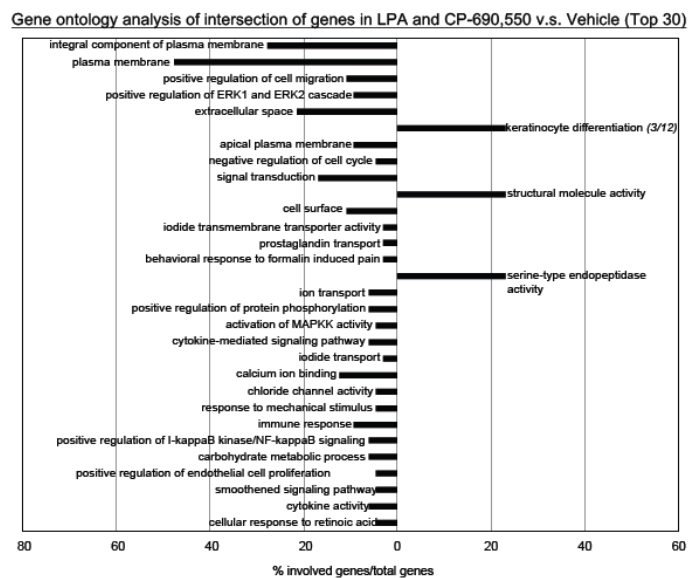
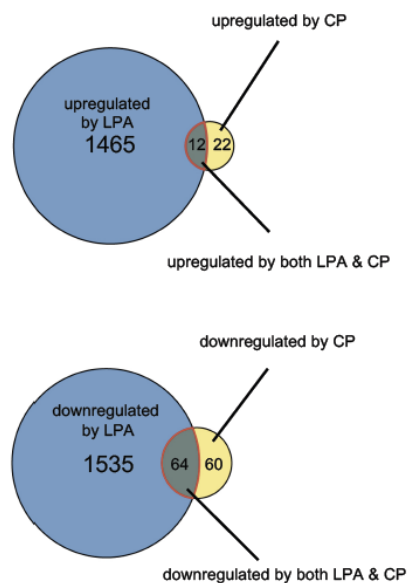


# Supplementary Figure S9

**a**



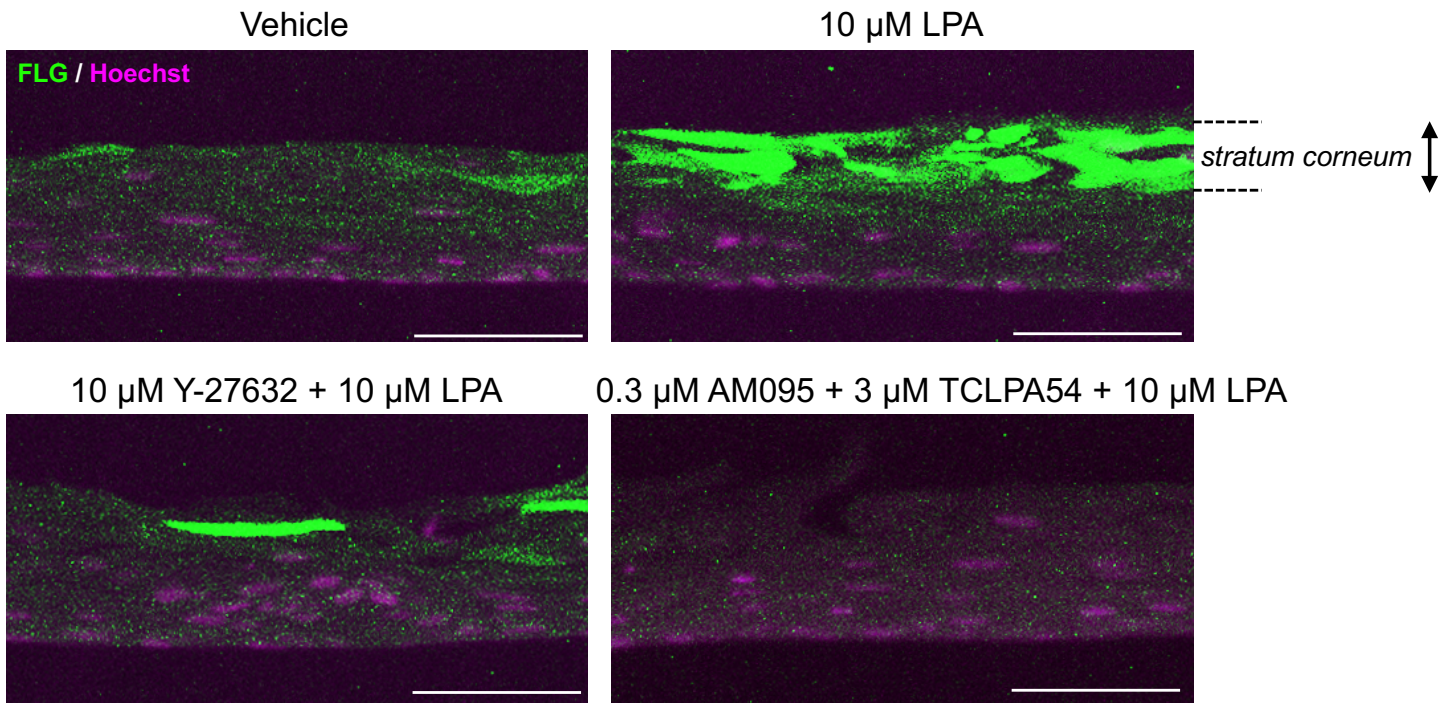
**b**



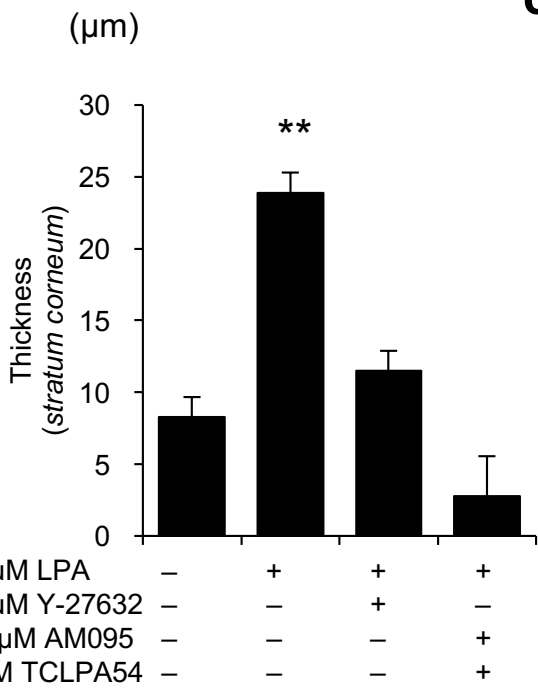
**Supplementary Figure S9. Comparison of changes in the NHEKs gene expression profile following LPA or CP-690,550 treatment.** (a) Enrichment GO terms of genes exclusively induced by LPA. Entities comprising lists of genes exhibiting 2-fold changes in expression upon LPA or CP-690,550 were determined from comparisons with the vehicle control, and were used to create Venn diagrams (left). Only upregulated and downregulated genes associated with LPA treatment (demarcated by red boundary) were used to analyze the enrichment of GO terms. The top 30 GO terms for genes with a 2-fold cutoff and statistical significance were ranked and are shown on the right. Note that 22 genes included in the ‘keratinocyte differentiation’ GO term were exclusively induced by LPA. (b) LPA and CP-690,550 intersecting genes, as demarcated by the red boundary in the left Venn diagram, were subjected to GO analysis. The top 30 GO terms for genes altered by both LPA and CP-690,550 are shown on the right. Note that only three genes (*FLG*, *LOR* and *SPRR3*), belonging to the ‘keratinocyte differentiation’ GO term, were induced by both LPA and CP-690,550. All GO analyses were performed using DAVID Bioinformatics resources 6.8 and the top 30 GO terms for genes with 2-fold cutoff and the statistical significance are shown.

# Supplementary Figure S10

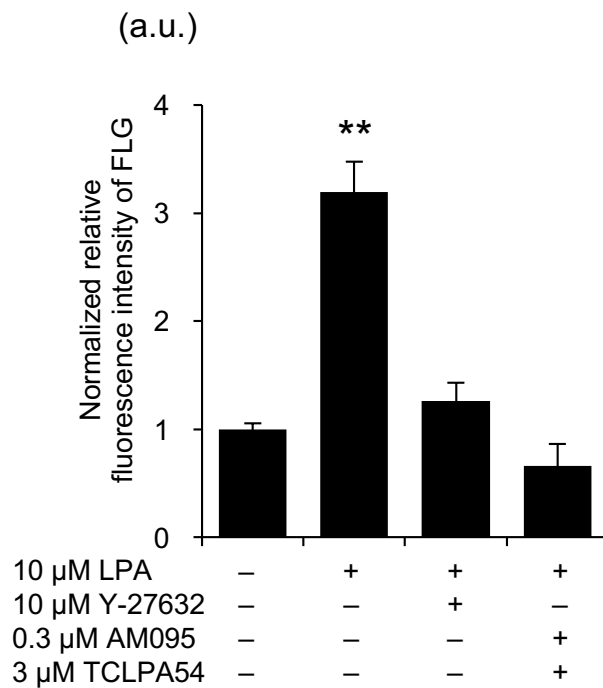
**a**



**b**



**c**

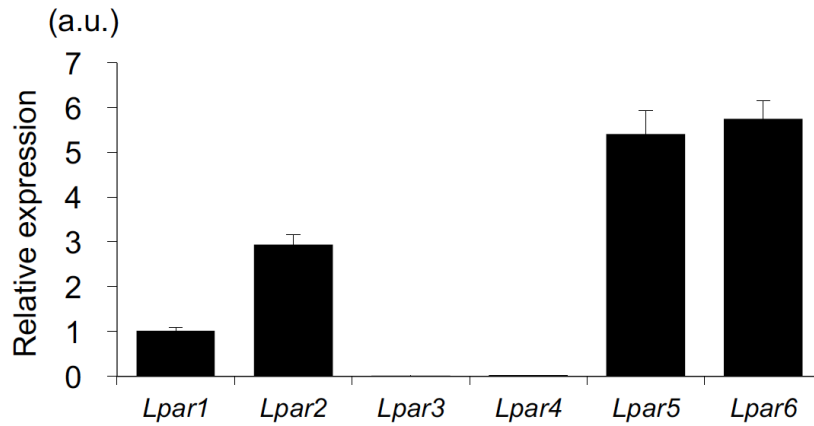


**Supplementary Figure S10. Evaluation of the effect of LPAR1/5 and RHO signaling activation on LPA-induced FLG protein production in 3D skin model.** (a) Representative immunofluorescence images of FLG (green) and Hoechst (magenta) staining in human 3D epidermal skin models subjected to the indicated treatments. Note the increase in thickness of the *stratum corneum* and the associated increase in FLG staining intensity upon LPA treatment, which were suppressed in cultures co-treated with Y-27632, or with AM095 and TCLPA5. Scale bars, 50  $\mu\text{m}$ . (b) Quantification of the thickness of the *stratum corneum* shown in (a). Data represent means  $\pm$  SEM ( $n = 8, 7, 5,$  and  $3$  for control vehicle, 10  $\mu\text{M}$  LPA, 10  $\mu\text{M}$  Y-27632 + 10  $\mu\text{M}$  LPA, and 0.3  $\mu\text{M}$  AM095 + 3  $\mu\text{M}$  TCLPA54 + 10  $\mu\text{M}$  LPA, respectively). \*\* $P < 0.01$  (Kruskal–Wallis test with Dunn’s multiple comparisons test). (c) Quantification of normalized relative fluorescence intensity of FLG staining shown in (a). Data represent means  $\pm$  SEM ( $n=8, 7, 5,$  and  $3$  for control vehicle, 10  $\mu\text{M}$  LPA, 10  $\mu\text{M}$  Y-27632 + 10  $\mu\text{M}$  LPA, and 0.3  $\mu\text{M}$  AM095 + 3  $\mu\text{M}$  TCLPA54 + 10  $\mu\text{M}$  LPA, respectively) and normalized to the control vehicle-treated group. \*\* $P < 0.01$  (Kruskal–Wallis test with Dunn’s multiple comparisons test).

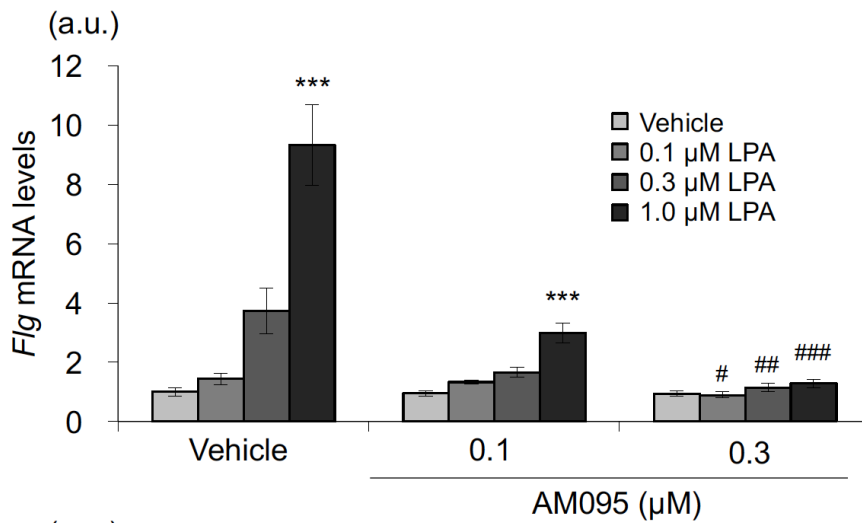


# Supplementary Figure S11

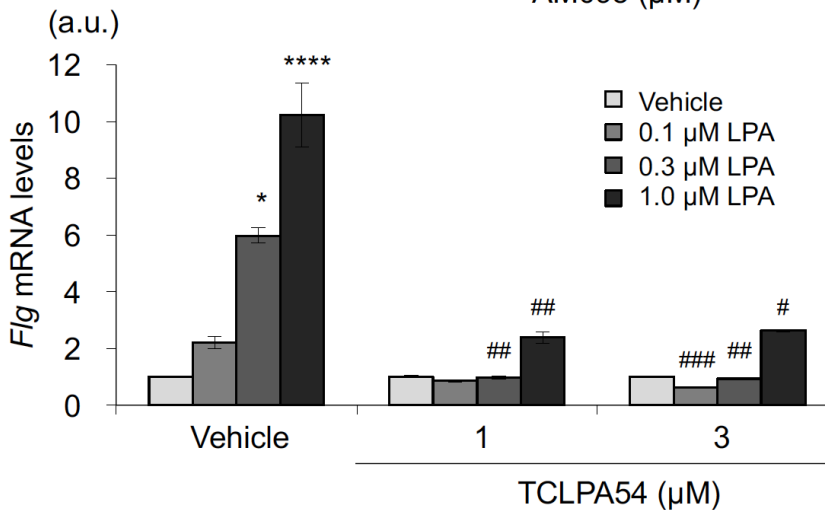
**a**



**b**

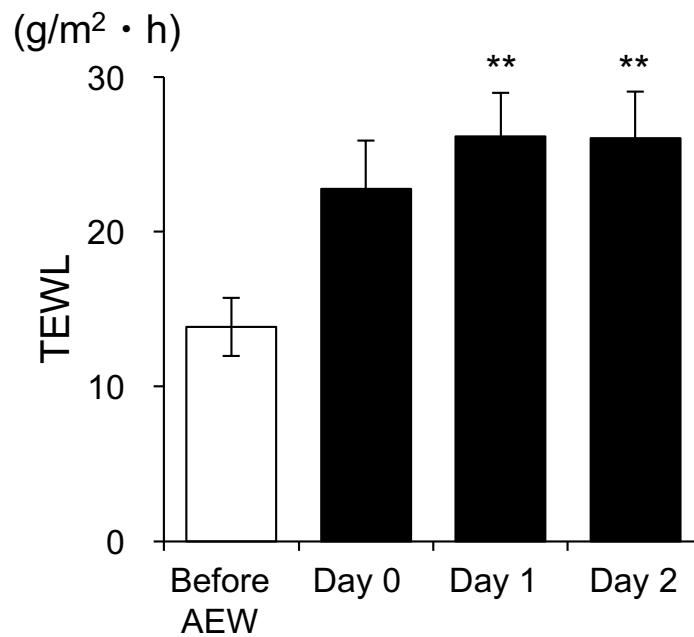


**c**



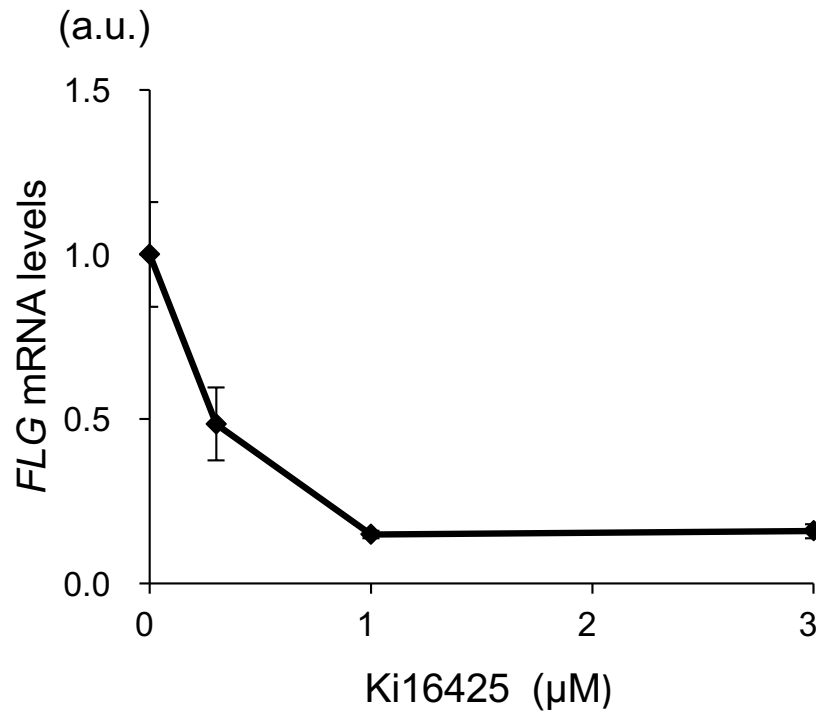
**Supplementary Figure S11. LPA induces *Flg* expression via *Lpar1/Lpar5* in primary mouse keratinocytes.** (a) Expression levels of genes encoding LPA receptors (*Lpar1-6*) in primary mouse keratinocytes were determined by qRT-PCR. Levels of gene expression of each LPA receptor were normalized to that of *Lpar1*. Results represent means  $\pm$  SEM (n = 6). (b, c) A selective antagonist to LPAR1 (AM095, b) or to LPAR5 (TCLPA54, c) suppressed LPA-induced *Flg* expression in primary mouse keratinocytes in a concentration-dependent manner. The antagonists were added to the culture 2 h prior to the addition of LPA. *Flg* expression was determined by qRT-PCR. Normalized fold changes in *Flg* gene expression are shown using *Gapdh* as the reference. Results represent means  $\pm$  SEM (n = 6). \* $P$  < 0.05, \*\*\* $P$  < 0.001, \*\*\*\* $P$  < 0.0001 (when compared with the vehicle control for each group of the indicated dose of antagonist); # $P$  < 0.05, ## $P$  < 0.01, ### $P$  < 0.001 (when compared with the no-antagonist control for each corresponding LPA concentration across all groups). Statistical significance was evaluated using the Kruskal–Wallis test with Dunn’s multiple comparisons test.

## Supplementary Figure S12



**Supplementary Figure S12. Time-course of TEWL in the dorsal skin of mice of the AEW dry skin mouse model.** TEWL was measured daily over a course of 3 days before disruption of the dorsal skin by AEW (twice a day). Results represent means  $\pm$  SEM (n = 5), \*\* $P < 0.01$  (Kruskal–Wallis test with Dunn’s multiple comparisons test).

## Supplementary Figure S13



**Supplementary Figure S13. Concentration-dependent suppression of basal *FLG* expression in NHEKs by Ki16425.** Serial dilutions of Ki16425 were added to NHEK cultures in the absence of LPA and IL-4. Cells were cultured for 3 days and *FLG* expression was then determined by qRT-PCR. Normalized fold changes in *FLG* gene expression are shown using *GAPDH* as the reference. Results represent means  $\pm$  SEM (n = 3).



**Supplementary Table S1:**  
Expression of 119 GPCRs in NHEKs

| No. | Target Name          | Description                                      | Ct Mean | ΔCt Mean |
|-----|----------------------|--|---------|----------|
| 0   | GAPDH-Hs9999905_m1   | glyceraldehyde-3-phosphate dehydrogenase         | 18.55   | 0        |
| 1   | TM7SF1-Hs00162803_m1 | G protein-coupled receptor 137B                  | 21.07   | 2.52     |
| 2   | GPR56-Hs00173754_m1  | G protein-coupled receptor 56                    | 21.11   | 2.57     |
| 3   | FZD6-Hs00171574_m1   | frizzled family receptor 6                       | 22.04   | 3.49     |
| 4   | GPR87-Hs00225057_m1  | G protein-coupled receptor 87                    | 22.98   | 4.43     |
| 5   | LPHN2-Hs00202347_m1  | adhesion G protein-coupled receptor L2           | 23.11   | 4.57     |
| 6   | GPR153-Hs00664129_s1 | G protein-coupled receptor 153                   | 23.55   | 5.00     |
| 7   | GPR115-Hs00402607_m1 | G protein-coupled receptor 115                   | 23.72   | 5.18     |
| 8   | P2RY1-Hs00704965_s1  | purinergic receptor P2Y, G-protein coupled, 1    | 23.75   | 5.21     |
| 9   | CELSR2-Hs00154903_m1 | cadherin, EGF LAG seven-pass G-type receptor 2   | 23.77   | 5.23     |
| 10  | ADRB2-Hs00240532_s1  | adrenergic, beta-2-, receptor, surface           | 23.87   | 5.33     |
| 11  | F2RL1-Hs00173741_m1  | coagulation factor II (thrombin) receptor-like 1 | 23.92   | 5.37     |
| 12  | GPR126-Hs00607475_m1 | G protein-coupled receptor 126                   | 24.22   | 5.67     |
| 13  | GPR92-Hs00252675_s1  | G protein-coupled receptor 92                    | 24.60   | 6.06     |
| 14  | GABBR1-Hs00559488_m1 | gamma-aminobutyric acid (GABA) B receptor, 1     | 24.63   | 6.09     |
| 15  | VIPR1-Hs00270351_m1  | vasoactive intestinal peptide receptor 1         | 24.73   | 6.18     |
|     |                      |  |         |          |

|    |                      |   |       |      |
|----|----------------------|---|-------|------|
| 16 | FZD10-Hs00273077_s1  | frizzled family receptor 10   | 24.82 | 6.28 |
| 17 | GPRC5A-Hs00173681_m1 | G protein-coupled receptor, family C, group 5, member A                 | 24.87 | 6.33 |
| 18 | GPR-Hs00173855_m1    | G protein-coupled receptor 176  | 24.91 | 6.36 |
| 19 | CELSR1-Hs00183906_m1 | cadherin, EGF LAG seven-pass G-type receptor 1                          | 25.07 | 6.52 |
| 20 | GPR125-Hs00377140_m1 | G protein-coupled receptor 125  | 25.14 | 6.60 |
| 21 | FZD1-Hs00268943_s1   | frizzled family receptor 1  | 25.22 | 6.67 |
| 22 | P2RY2-Hs00175732_m1  | purinergic receptor P2Y, G-protein coupled, 2                           | 25.22 | 6.67 |
| 23 | EDG8-Hs00258220_s1   | endothelial differentiation, sphingolipid G-protein-coupled receptor, 8 | 25.61 | 7.07 |
| 24 | GPR1-Hs00270990_s1   | G protein-coupled receptor 1  | 25.65 | 7.11 |
| 25 | LTB4R2-Hs00251973_s1 | leukotriene B4 receptor 2   | 25.82 | 7.27 |
| 26 | VN1R1-Hs00252888_s1  | vomeronal 1 receptor 1  | 25.88 | 7.33 |
| 27 | FZD3-Hs00184043_m1   | frizzled family receptor 3  | 26.02 | 7.48 |
| 28 | OR2A4-Hs00258414_s1  | olfactory receptor, family 2, subfamily A, member 4                     | 26.09 | 7.54 |
| 29 | P2RY11-Hs00267414_s1 | purinergic receptor P2Y, G-protein coupled, 11                          | 26.11 | 7.57 |
| 30 | EDG2-Hs00173500_m1   | endothelial differentiation, sphingolipid G-protein-coupled receptor, 2 | 26.21 | 7.67 |
| 31 | P2RY5-Hs00271758_s1  | purinergic receptor P2Y, G-protein coupled, 5                           | 26.37 | 7.83 |
| 32 | FZD5-Hs00361869_g1   | frizzled family receptor 5  | 26.60 | 8.06 |

|    |                       |   |       |      |
|----|-----------------------|---|-------|------|
| 33 | GPR68-Hs00268858_s1   | G protein-coupled receptor 68   | 26.67 | 8.13 |
| 34 | GPR110-Hs00542396_m1  | G protein-coupled receptor 110  | 26.69 | 8.15 |
| 35 | FZD7-Hs00275833_s1    | frizzled family receptor 7  | 26.79 | 8.25 |
| 36 | SMO-Hs00170665_m1     | smoothened, frizzled family receptor                                    | 26.82 | 8.27 |
| 37 | LTB4R-Hs00175124_m1   | leukotriene B4 receptor   | 27.01 | 8.47 |
| 38 | EDG4-Hs00173704_m1    | endothelial differentiation, sphingolipid G-protein-coupled receptor, 4 | 27.02 | 8.48 |
| 39 | GPR84-Hs00220561_m1   | G protein-coupled receptor 84   | 27.05 | 8.49 |
| 40 | ADORA2B-Hs00386497_m1 | adenosine A2b receptor  | 27.07 | 8.53 |
| 41 | EDG7-Hs00173857_m1    | endothelial differentiation, sphingolipid G-protein-coupled receptor, 7 | 27.09 | 8.54 |
| 42 | HTR7-Hs00252002_m1    | 5-hydroxytryptamine (serotonin) receptor 7 (adenylate cyclase-coupled)  | 27.17 | 8.63 |
| 43 | GPR143-Hs00173432_m1  | G protein-coupled receptor 143  | 27.28 | 8.74 |
| 44 | GPR21-Hs00271059_s1   | G protein-coupled receptor 21   | 27.36 | 8.81 |
| 45 | BDKRB2-Hs00176121_m1  | bradykinin receptor B2  | 27.42 | 8.88 |
| 46 | EDNRA-Hs00609865_m1   | endothelin receptor type A  | 27.54 | 8.99 |
| 47 | OXTR-Hs00168573_m1    | oxytocin receptor   | 27.56 | 9.01 |
| 48 | GPR161-Hs00201276_m1  | G protein-coupled receptor 161  | 27.56 | 9.02 |
| 49 | GPR22-Hs00271063_s1   | G protein-coupled receptor 22   | 27.67 | 9.12 |

|    |                      |  |       |       |
|----|----------------------|--|-------|-------|
| 50 | LPHN1-Hs00208706_m1  | adhesion G protein-coupled receptor L1   | 27.68 | 9.13  |
| 51 | PTGER4-Hs00168761_m1 | prostaglandin E receptor 4 (subtype EP4)   | 27.70 | 9.16  |
| 52 | EBI2-Hs00270639_s1   | Epstein-Barr virus induced gene 2 (lymphocyte-specific G protein-coupled receptor) | 27.71 | 9.16  |
| 53 | GPR39-Hs00230762_m1  | G protein-coupled receptor 39  | 27.74 | 9.19  |
| 54 | GPR37-Hs00173744_m1  | G protein-coupled receptor 37  | 27.87 | 9.32  |
| 55 | IL8RB-Hs00174304_m1  | interleukin 8 receptor, beta   | 27.92 | 9.37  |
| 56 | PTAFR-Hs00265392_s1  | platelet-activating factor receptor  | 28.02 | 9.47  |
| 57 | EDG3-Hs00245464_s1   | endothelial differentiation, sphingolipid G-protein-coupled receptor, 3            | 28.32 | 9.78  |
| 58 | CELSR3-Hs00609783_m1 | cadherin, EGF LAG seven-pass G-type receptor 3                                     | 28.39 | 9.84  |
| 59 | OXER1-Hs00536961_s1  | oxoeicosanoid (OXE) receptor 1   | 28.42 | 9.87  |
| 60 | GPR82-Hs00369838_s1  | G protein-coupled receptor 82  | 28.59 | 10.05 |
| 61 | BDKRB1-Hs00664201_s1 | bradykinin receptor B1   | 28.61 | 10.07 |
| 62 | GPR135-Hs00254758_s1 | G protein-coupled receptor 135   | 28.71 | 10.16 |
| 63 | GPR146-Hs00298904_s1 | G protein-coupled receptor 146   | 28.82 | 10.28 |
| 64 | GIPR-Hs00164732_m1   | gastric inhibitory polypeptide receptor  | 28.83 | 10.29 |
| 65 | GPR34-Hs00271105_s1  | G protein-coupled receptor 34  | 28.86 | 10.32 |
| 66 | BAI2-Hs00184657_m1   | brain-specific angiogenesis inhibitor 2  | 28.92 | 10.37 |

|    |                       |   |       |       |
|----|-----------------------|---|-------|-------|
| 67 | MC1R-Hs00267168_s1    | melanocortin 1 receptor (alpha melanocyte stimulating hormone receptor) | 28.99 | 10.44 |
| 68 | HTR1D-Hs00704742_s1   | 5-hydroxytryptamine (serotonin) receptor 1D                             | 29.01 | 10.46 |
| 69 | CCRL1-Hs00356608_g1   | chemokine (C-C motif) receptor-like 1                                   | 29.04 | 10.49 |
| 70 | GPR52-Hs00271672_s1   | G protein-coupled receptor 52   | 29.04 | 10.50 |
| 71 | CALCRL-Hs00173787_m1  | calcitonin receptor-like  | 29.21 | 10.66 |
| 72 | FZD2-Hs00361432_s1    | frizzled family receptor 2  | 29.29 | 10.75 |
| 73 | MRGPRX3-Hs00754695_s1 | MAS-related GPR, member X3  | 29.44 | 10.90 |
| 74 | EDG1-Hs00173499_m1    | endothelial differentiation, sphingolipid G-protein-coupled receptor, 1 | 29.53 | 10.98 |
| 75 | EMR2-Hs00203752_m1    | egf-like module containing, mucin-like, hormone receptor-like 2         | 29.66 | 11.11 |
| 76 | GALR2-Hs00605839_m1   | galanin receptor 2  | 29.69 | 11.15 |
| 77 | GPRC5B-Hs00212116_m1  | G protein-coupled receptor, family C, group 5, member B                 | 29.79 | 11.24 |
| 78 | CCBP2-Hs00174299_m1   | chemokine binding protein 2   | 30.14 | 11.59 |
| 79 | ADORA2A-Hs00169123_m1 | adenosine A2a receptor  | 30.15 | 11.60 |
| 80 | GPR111-Hs00984115_m1  | G protein-coupled receptor 111  | 30.16 | 11.61 |
| 81 | C5R1-Hs00356609_g1    | complement component 5 receptor 1 (C5a ligand)                          | 30.18 | 11.63 |
| 82 | GPR75-Hs00173848_m1   | G protein-coupled receptor 75   | 30.18 | 11.64 |
| 83 | CHRM4-Hs00265219_s1   | cholinergic receptor, muscarinic 4                                      | 30.25 | 11.71 |

|     |                      |   |       |       |
|-----|----------------------|---|-------|-------|
| 84  | GPR7-Hs00271017_s1   | G protein-coupled receptor 7  | 30.26 | 11.72 |
| 85  | GPR63-Hs00229240_m1  | G protein-coupled receptor 63   | 30.31 | 11.77 |
| 86  | LPHN3-Hs00248624_m1  | adhesion G protein-coupled receptor L3                                  | 30.34 | 11.80 |
| 87  | NPY6R-Hs00246222_s1  | neuropeptide Y receptor Y6 (pseudogene)                                 | 30.47 | 11.93 |
| 88  | FZD8-Hs00259040_s1   | frizzled family receptor 8  | 30.59 | 12.04 |
| 89  | GNRHR-Hs00171248_m1  | gonadotropin-releasing hormone receptor                                 | 30.60 | 12.05 |
| 90  | PTGER3-Hs00168755_m1 | prostaglandin E receptor 3 (subtype EP3)                                | 30.60 | 12.06 |
| 91  | LGR6-Hs00663887_m1   | leucine-rich repeat-containing G protein-coupled receptor 6             | 30.72 | 12.18 |
| 92  | GPR173-Hs00255846_s1 | G protein-coupled receptor 173  | 30.78 | 12.24 |
| 93  | P2RY4-Hs00267404_s1  | pyrimidinergic receptor P2Y, G-protein coupled, 4                       | 30.79 | 12.25 |
| 94  | GPR113-Hs00542378_m1 | G protein-coupled receptor 113  | 30.80 | 12.26 |
| 95  | XCR1-Hs00245540_s1   | chemokine (C motif) receptor 1  | 30.84 | 12.30 |
| 96  | GPR45-Hs00273112_s1  | G protein-coupled receptor 45   | 30.91 | 12.36 |
| 97  | GPR160-Hs00205115_m1 | G protein-coupled receptor 160  | 31.10 | 12.55 |
| 98  | FZD9-Hs00268954_s1   | frizzled family receptor 9  | 31.13 | 12.58 |
| 99  | EDG6-Hs00269446_s1   | endothelial differentiation, sphingolipid G-protein-coupled receptor, 6 | 31.17 | 12.62 |
| 100 | GPR85-Hs00173925_m1  | G protein-coupled receptor 85   | 31.20 | 12.65 |

| 100 | GPR118-Hs0119262_m1  | G protein-coupled receptor 62               | 31.29 | 12.66 |
|-----|----------------------|---|-------|-------|
| 101 | FZD4-Hs00201853_m1   | frizzled family receptor 4                  | 31.21 | 12.66 |
| 102 | GPR24-Hs00538798_m1  | G protein-coupled receptor 24               | 31.33 | 12.78 |
| 103 | HRH3-Hs00200610_m1   | histamine receptor H3                       | 31.48 | 12.93 |
| 104 | ADRB1-Hs00265096_s1  | adrenergic, beta-1-, receptor               | 31.58 | 13.04 |
| 105 | CHRM5-Hs00255278_s1  | cholinergic receptor, muscarinic 5          | 31.60 | 13.05 |
| 106 | HTR1B-Hs00265286_s1  | 5-hydroxytryptamine (serotonin) receptor 1B | 31.63 | 13.08 |
| 107 | GPR35-Hs00271114_s1  | G protein-coupled receptor 35               | 31.98 | 13.43 |
| 108 | MTNR1A-Hs00195567_m1 | melatonin receptor 1A                       | 32.02 | 13.47 |
| 109 | GPR62-Hs00607814_s1  | G protein-coupled receptor 62               | 32.03 | 13.48 |
| 110 | SSTR2-Hs00265624_s1  | somatostatin receptor 2                     | 32.08 | 13.53 |
| 111 | DRD5-Hs00361234_s1   | dopamine receptor D5                        | 32.12 | 13.57 |
| 112 | GPR4-Hs00270999_s1   | G protein-coupled receptor 4                | 32.21 | 13.66 |
| 113 | C3AR1-Hs00269693_s1  | complement component 3a receptor 1          | 32.44 | 13.89 |
| 114 | BAI1-Hs00181777_m1   | brain-specific angiogenesis inhibitor 1     | 32.47 | 13.92 |
| 115 | DRD2-Hs00241436_m1   | dopamine receptor D2                        | 32.54 | 14.00 |
| 116 | GPR124-Hs00262150_m1 | G protein-coupled receptor 124              | 32.69 | 14.14 |
|     |                      |   |       |       |

|     |                     |                               |       |       |
|-----|---------------------|-------------------------------|-------|-------|
| 117 | GPR81-Hs00261411_s1 | G protein-coupled receptor 81 | 32.89 | 14.34 |
| 118 | GPR61-Hs00259108_s1 | G protein-coupled receptor 61 | 32.97 | 14.43 |
| 119 | GPR97-Hs00416887_m1 | G protein-coupled receptor 97 | 32.99 | 14.44 |



**Supplementary Table S2:**  
**Genes upregulated following LPA treatment**  
*Software: GainsSign, Version 1.8.9 (Lalain, Technologies, Inc.)*  
 Moderated *T*-test, corrected *p*-value cut-off 0.05  
 Fold change cut-off 2.0  
*p*-value computation: Asymptotic  
 Multiple Testing Correction: Benjamini-Hochberg

| Problems       | FO (fold) Vs (cut) | Log FO (fold) Vs (cut) | FO (abs) (fold) Vs (cut) | Regulation (fold) Vs (cut) | GeneSymbol     | Description  |
|----------------|--------------------|------------------------|--------------------------|----------------------------|----------------|--|
| A.33 P2321976  | 748.387            | 9.648                  | 748.387                  | up                         | PSG3           | Homo sapiens pregnancy specific beta-1-glycoprotein 5 (PSG3), transcript variant 2, mRNA [NM_00133014]   |
| A.33 P256247   | 623.328            | 9.284                  | 623.328                  | up                         | PSG3           | Homo sapiens pregnancy specific beta-1-glycoprotein 3 (PSG3), mRNA [NM_021016]   |
| A.21 P0009781  | 351.006            | 8.855                  | 351.006                  | up                         | UCA1           | Homo sapiens urothelial cancer associated 1 (non-protein coding) (UCA1), long non-coding RNA [NR_015379]   |
| A.24 P10214    | 270.059            | 8.077                  | 270.059                  | up                         | STXBP6         | Homo sapiens syntaxin binding protein 6 (amyotrophic lateral sclerosis 2) (STXBP6), mRNA [NM_014178]   |
| A.33 P2327212  | 292.174            | 7.978                  | 292.174                  | up                         | PSG12          | Human processed pseudo-proteoglycan-specific alpha-glycoprotein (PSG12) gene, exon B2C containing 3 untranslated regions of 2 alternative splice sites C1 and C2, [L_4793] |
| A.32 P200288   | 245.561            | 7.640                  | 245.561                  | up                         | UCA1           | Homo sapiens urothelial cancer associated 1 (non-protein coding) (UCA1), long non-coding RNA [NR_015379]   |
| A.33 P2403018  | 234.557            | 7.614                  | 234.557                  | up                         | LOSEA          | Homo sapiens lethe correlated envelope 5A (LCE5A), mRNA [NM_178438]  |
| A.23 P48327    | 234.338            | 7.612                  | 234.338                  | up                         | KCTD4          | Homo sapiens potassium channel tetramerization domain containing 4 (KCTD4), mRNA [NM_188404]   |
| A.24 P263019   | 190.292            | 7.572                  | 190.292                  | up                         | IL1R2          | Homo sapiens interleukin 1 receptor, type II (IL1R2), transcript variant 1, mRNA [NM_004833]   |
| A.22 P0001425  | 178.140            | 7.477                  | 178.140                  | up                         | PSG10P         | Homo sapiens long interspersed non-protein coding RNA 492 (LINC00492), long non-coding RNA [NR_047462]   |
| A.21 P0000516  | 162.833            | 7.245                  | 162.833                  | up                         | PSG10P         | Homo sapiens pregnancy specific beta-1-glycoprotein 10, pseudogene (PSG10P), non-coding RNA [NR_028824]  |
| A.21 P0000191  | 143.858            | 7.188                  | 143.858                  | up                         | PSG6           | Homo sapiens syntaxin binding protein 6 (amyotrophic lateral sclerosis 2) (PSG6), transcript variant 1, mRNA [NM_002782]   |
| A.23 P2002175  | 135.868            | 7.088                  | 135.868                  | up                         | STXBP6         | Homo sapiens syntaxin binding protein 6 (amyotrophic lateral sclerosis 2) (STXBP6), mRNA [NM_014178]   |
| A.24 P2002178  | 135.252            | 7.088                  | 135.252                  | up                         | UPK1B          | Homo sapiens membrane-associated ring finger 3 (C9orf14), gene, exon 1, mRNA [NM_028814]   |
| A.23 P2002179  | 134.079            | 7.079                  | 134.079                  | up                         | MSRP           | Homo sapiens membrane-associated ring finger 3 (C9orf14), gene, exon 1, mRNA [NM_028814]   |
| A.23 P2002180  | 124.079            | 6.954                  | 124.079                  | up                         | MSRP           | Homo sapiens membrane-associated ring finger 3 (C9orf14), gene, exon 1, mRNA [NM_028814]   |
| A.23 P2002181  | 112.140            | 6.608                  | 112.140                  | up                         | GURX           | Homo sapiens glutathione transferase (cytosolic) (GURX), transcript variant 1, mRNA [NM_020424]  |
| A.23 P118854   | 108.431            | 6.616                  | 108.431                  | up                         | KRT137         | Homo sapiens keratin 37, type I (KRT137), mRNA [NM_003770]   |
| A.24 P49267    | 107.039            | 6.543                  | 107.039                  | up                         | AZGP1P1        | alpha-2-glycoprotein 1, zinc-binding pseudogene 1 (SourceHGNC:Symbol:AZGP1), [ENSEMBL:ENST0000041909]  |
| A.23 P51128    | 106.329            | 6.528                  | 106.329                  | up                         | IL1RL1         | Homo sapiens interleukin 1 receptor-like 1 (IL1RL1), transcript variant 1, mRNA [NM_016222]  |
| A.33 P2356616  | 105.857            | 6.722                  | 105.857                  | up                         | LCE1B          | Homo sapiens late cornified envelope 1B (LCE1B), mRNA [NM_178349]  |
| A.33 P271541   | 104.885            | 6.713                  | 104.885                  | up                         | LOC388282      | Homo sapiens uncharacterized LOC388282 (LOC388282), mRNA [NM_00127808]   |
| A.33 P2362008  | 104.571            | 6.688                  | 104.571                  | up                         | NPPB           | Homo sapiens natriuretic peptide B (NPPB), mRNA [NM_009291]  |
| A.23 P48740    | 101.895            | 6.608                  | 101.895                  | up                         | DI02           | Homo sapiens dioladenosine, adenylyltransferase, type II (DI02), transcript variant 1, mRNA [NM_013889]  |
| A.24 P126741   | 99.522             | 6.637                  | 99.522                   | up                         | LCE6A          | glutathione (thioltransferase) pseudogene 3 (SourceHGNC:Symbol:LCE6A), mRNA [NM_00128600]  |
| A.33 P2365072  | 98.331             | 6.634                  | 98.331                   | up                         | DI02           | Homo sapiens late cornified envelope 6A (LCE6A), mRNA [NM_00128600]  |
| A.24 P241674   | 98.688             | 6.625                  | 98.688                   | up                         | DI02           | Homo sapiens dioladenosine, adenylyltransferase, type II (DI02), transcript variant 1, mRNA [NM_013889]  |
| A.23 P21270    | 93.381             | 6.545                  | 93.381                   | up                         | AZGP1          | Homo sapiens alpha-2-glycoprotein 1, zinc-binding (AZGP1), mRNA [NM_001185]  |
| A.21 P0000986  | 85.292             | 6.431                  | 85.292                   | up                         | LOC100595440   | LINCpadi, lincRNA (linc-ZNF675-1), lincRNA [linc-ZNF675-1]   |
| A.22 P0001823  | 84.053             | 6.393                  | 84.053                   | up                         | linc-ZNF675-1  | Homo sapiens uncharacterized LOC10182823 (LOC10182823), long non-coding RNA [NR_102426]  |
| A.24 P275038   | 79.705             | 6.328                  | 79.705                   | up                         | AGPAT10        | Homo sapiens 1-acylglycerol-3-phosphate O-acyltransferase 9 (AGPAT10), transcript variant 1, mRNA [NM_138155]  |
| A.23 P260319   | 76.239             | 6.292                  | 76.239                   | up                         | AGPAT10        | Homo sapiens 1-acylglycerol-3-phosphate O-acyltransferase 9 (AGPAT10), transcript variant 1, mRNA [NM_138155]  |
| A.33 P246843   | 74.818             | 6.227                  | 74.818                   | up                         | GABBR2         | Homo sapiens gamma-aminobutyric acid (GABA) B receptor 2 (GABBR2), mRNA [NM_005468]  |
| A.33 P2362868  | 74.188             | 6.213                  | 74.188                   | up                         | ANKRD30BP3     | Homo sapiens hypothetical protein LOC338787, mRNA (cDNA clone IMAGE326586), [BC034328]   |
| A.23 P43197    | 70.465             | 6.139                  | 70.465                   | up                         | CALB1          | calbindin 1, 28kDa (SourceHGNC:Symbol:HGNC:1434) [ENST00000469932]   |
| A.33 P2318734  | 68.892             | 6.106                  | 68.892                   | up                         | LOC729083      | Homo sapiens uncharacterized LOC729083 (LOC729083), long non-coding RNA [NR_123070]  |
| A.23 P244652   | 68.868             | 6.105                  | 68.868                   | up                         | LOR            | Homo sapiens lorcin (LOR), mRNA [NM_000427]  |
| A.23 P18017    | 68.824             | 6.105                  | 68.824                   | up                         | DEFB103B       | Homo sapiens defensin, beta 103B (DEFB103B), mRNA [NM_018861]  |
| A.23 P126860   | 67.734             | 6.082                  | 67.734                   | up                         | TMEM25A        | Homo sapiens transmembrane protein 25A (TMEM25A), transcript variant 1, mRNA [NM_017938]   |
| A.23 P405295   | 65.135             | 6.025                  | 65.135                   | up                         | LCE3C          | Homo sapiens late cornified envelope 3C (LCE3C), mRNA [NM_178434]  |
| A.23 P82752    | 65.115             | 6.025                  | 65.115                   | up                         | NPPB           | Homo sapiens natriuretic peptide B (NPPB), mRNA [NM_009291]  |
| A.23 P124892   | 63.420             | 5.987                  | 63.420                   | up                         | KISS1          | Homo sapiens kisspeptin-specific beta-1-glycoprotein 1 (PSG1), transcript variant 1, mRNA [NM_006905]  |
| A.23 P200697   | 63.039             | 5.978                  | 63.039                   | up                         | PSG1           | Homo sapiens pregnancy specific beta-1-glycoprotein 1 (PSG1), transcript variant 1, mRNA [NM_002723]   |
| A.33 P217776   | 61.212             | 5.938                  | 61.212                   | up                         | PBE4           | Homo sapiens proline-rich protein BMT1 subfamily 4 (PBE4), transcript variant 1, mRNA [NM_002723]  |
| A.33 P2002125  | 60.949             | 5.927                  | 60.949                   | up                         | LCE2A          | Homo sapiens late cornified envelope 2A (LCE2A), mRNA [NM_178428]  |
| A.22 P0001381  | 59.735             | 5.900                  | 59.735                   | up                         | LINC00492      | Homo sapiens long interspersed non-protein coding RNA 492 (LINC00492), long non-coding RNA [NR_047462]   |
| A.23 P2326688  | 58.746             | 5.876                  | 58.746                   | up                         | LCE2D          | Homo sapiens late cornified envelope 2D (LCE2D), mRNA [NM_178429]  |
| A.21 P0004718  | 57.938             | 5.868                  | 57.938                   | up                         | LOC100507408   | Homo sapiens late cornified envelope 2B (LCE2B), mRNA [NM_178429]  |
| A.23 P422018   | 57.643             | 5.848                  | 57.643                   | up                         | SPRR4          | Homo sapiens small proline-rich protein 4 (SPRR4), mRNA [NM_178000]  |
| A.23 P401774   | 57.102             | 5.835                  | 57.102                   | up                         | ELMO1          | Homo sapiens ELMO, CED-12 domain containing 1 (ELMO1), transcript variant 1, mRNA [NM_018179]  |
| A.24 P292110   | 56.860             | 5.829                  | 56.860                   | up                         | PSG6B          | Homo sapiens pregnancy specific beta-1-glycoprotein 6 (PSG6B), transcript variant 1, mRNA [NM_018207]  |
| A.22 P00005712 | 56.123             | 5.811                  | 56.123                   | up                         | Chorf7         | Homo sapiens chromosome 6 open reading frame 7 (Chorf7), mRNA [NM_001243308]   |
| A.33 P2356611  | 55.729             | 5.800                  | 55.729                   | up                         | LCE1E          | Homo sapiens late cornified envelope 1E (LCE1E), mRNA [NM_178353]  |
| A.33 P2401855  | 55.019             | 5.782                  | 55.019                   | up                         | PSG2           | Homo sapiens pregnancy specific beta-1-glycoprotein 2 (PSG2), mRNA [NM_012426]   |
| A.32 P24376    | 54.483             | 5.768                  | 54.483                   | up                         | KRTAP2-3       | Homo sapiens keratin associated protein, 2-3 (KRTAP2-3), mRNA [NM_001185292]   |
| A.33 P338908   | 53.168             | 5.731                  | 53.168                   | up                         | PADI1          | Homo sapiens peptidylarginine deiminase, type 1 (PADI1), mRNA [NM_013358]  |
| A.22 P00010334 | 52.278             | 5.708                  | 52.278                   | up                         | linc-MYBBP1A-1 | LINCpadi, lincRNA (linc-MYBBP1A-1), lincRNA [linc-MYBBP1A-1]   |
| A.22 P00021161 | 52.248             | 5.707                  | 52.248                   | up                         | linc-MYBBP1A-2 | Homo sapiens cDNA FLJ36551, clone TRACH008127, AK091870  |
| A.33 P2415688  | 51.705             | 5.694                  | 51.705                   | up                         | LOC643823      | Homo sapiens uncharacterized LOC643823 (LOC643823), long non-coding RNA [NR_028232]  |
| A.24 P289795   | 51.414             | 5.682                  | 51.414                   | up                         | ADAMT1         | long interspersed non-protein coding RNA 302 (SourceHGNC:Symbol:HGNC:3192) [ENST00000444515]   |
| A.33 P330013   | 51.341             | 5.682                  | 51.341                   | up                         | KRT183         | Homo sapiens keratin 83, type II (KRT183), mRNA [NM_002232]  |
| A.24 P410408   | 51.210             | 5.678                  | 51.210                   | up                         | LOC100506860   | Homo sapiens proline-rich protein BMT1 subfamily 2 (PBE2), transcript variant 1, mRNA [NM_006868]  |
| A.33 P2303340  | 50.747             | 5.664                  | 50.747                   | up                         | LCE2B          | Homo sapiens late cornified envelope 2B (LCE2B), mRNA [NM_178429]  |
| A.24 P2027818  | 49.950             | 5.640                  | 49.950                   | up                         | linc-FER1L6-1  | LINCpadi, lincRNA (linc-FER1L6-1), lincRNA [linc-FER1L6-1]   |
| A.21 P0002559  | 49.848             | 5.638                  | 49.848                   | up                         | linc-FER1L6-1  | LINCpadi, lincRNA (linc-FER1L6-1), lincRNA [linc-FER1L6-1]   |

|                |        |       |        |               |  |
|----------------|--------|-------|--------|---------------|--|
| A.23 P213319   | 48.31  | 5.007 | 48.731 | ADAMTS6       | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 6 (ADAMTS6), mRNA [NM 197841]                                     |
| A.33 P3312519  | 48.576 | 5.022 | 48.576 | KPRP          | Homo sapiens keratocyte profilin-rich protein (KPRP), mRNA [NM 001029231]  |
| A.23 P106589   | 48.882 | 5.038 | 48.882 | ECM1          | Homo sapiens extracellular matrix protein 1 (ECM1), transcript variant 1, mRNA [NM 004428]   |
| A.23 P213137   | 47.712 | 5.076 | 47.712 | LNX1          | Homo sapiens ligand of numb-protein X 1, E3 ubiquitin protein ligase (LNX1), transcript variant 2, mRNA [NM 038292]                    |
| A.33 P3264179  | 47.031 | 5.558 | 47.031 | LOERIE        | Homo sapiens late corriflated envelope 3E (LOERIE), mRNA [NM 178435]   |
| A.33 P3268845  | 46.796 | 5.548 | 46.796 | IGFL1         | Homo sapiens IG-like family member 1 (IGFL1), mRNA [NM 186541]   |
| A.21 P0011723  | 46.749 | 5.547 | 46.749 | ATGBB         | Homo sapiens autophagy-related 9B (ATGBB), transcript variant 1, mRNA [NM 173881]  |
| A.22 P0000783  | 46.713 | 5.546 | 46.713 | GSMDA         | Homo sapiens gasdermin A (GSMDA), mRNA [NM 178171]   |
| A.23 P152805   | 46.068 | 5.528 | 46.068 | UCP39         | Homo sapiens late corriflated envelope 39 (UCP39), mRNA [NM 178433]  |
| A.23 P245458   | 45.873 | 5.507 | 45.873 | UCP38         | Homo sapiens late corriflated envelope 38 (UCP38), mRNA [NM 178432]  |
| A.33 P3264538  | 45.873 | 5.507 | 45.873 | UCP37         | Homo sapiens late corriflated envelope 37 (UCP37), mRNA [NM 178431]  |
| A.33 P3264537  | 45.862 | 5.504 | 45.862 | UCP36         | Homo sapiens late corriflated envelope 36 (UCP36), mRNA [NM 178430]  |
| A.33 P3264536  | 45.852 | 5.502 | 45.852 | UCP35         | Homo sapiens late corriflated envelope 35 (UCP35), mRNA [NM 178429]  |
| A.22 P0000682  | 44.156 | 5.684 | 44.156 | FALEC         | Homo sapiens fatty acid-related enzyme 3 (FALEC), mRNA [NM 026166]   |
| A.22 P0002742  | 43.423 | 5.442 | 43.423 | LOC101928101  | Homo sapiens uncharacterized LOC101928101 (LOC101928101), mRNA [NR 051980]   |
| A.23 P1017173  | 42.851 | 5.421 | 42.851 | MEOX1         | Homo sapiens mesenchyme homeobox 1 (MEOX1), transcript variant 1, mRNA [NM 004427]   |
| A.33 P3268553  | 42.704 | 5.416 | 42.704 | ADAMTS8       | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 8 (ADAMTS8), mRNA [NM 197841]                                     |
| A.23 P145529   | 42.566 | 5.412 | 42.566 | PKIB          | Homo sapiens protein kinase (CAMP-dependent, catalytic), inhibitor beta (PKIB), transcript variant 1, mRNA [NM 181795]                 |
| A.22 P00008987 | 41.986 | 5.378 | 41.986 | LOC101930114  | Homo sapiens uncharacterized LOC101930114 (LOC101930114), mRNA [XR 426994]   |
| A.21 P0014384  | 41.386 | 5.371 | 41.386 | Inc-MYBBP1A-2 | ALU15.HUMAN (P38192) Alu subfamily SC sequence contamination warning entry, partial, (8x) [HC2542905]                                  |
| A.21 P0010335  | 40.692 | 5.847 | 40.692 | SPNS2         | mouse heavy chain 16 pseudogene (SourceHGNC Symbol:HGNC:31039) [ENS100000439784]   |
| A.23 P362089   | 40.588 | 5.843 | 40.588 | HSD11B1       | Homo sapiens hydroxysteroid (11-beta) dehydrogenase 1 (HSD11B1), transcript variant 2, mRNA [NM 181795]                                |
| A.23 P146946   | 39.789 | 5.515 | 39.789 | CS1T6         | Homo sapiens cystatin E/M (CS1T6), mRNA [NM 001523]  |
| A.23 P36521    | 39.783 | 5.514 | 39.783 | LOEPC         | Homo sapiens late corriflated envelope 25 (LOEPC), mRNA [NM 178429]  |
| A.21 P0011781  | 39.256 | 5.295 | 39.256 | PCGB          | Homo sapiens potassium channel, calcium activated intermediate/small conductance subfamily A alpha, member 4 (KCNN4), mRNA [NM 082250] |
| A.23 P367269   | 39.193 | 5.293 | 39.193 | KCNNA4        | Homo sapiens potassium channel, calcium activated intermediate/small conductance subfamily A alpha, member 4 (KCNN4), mRNA [NM 082250] |
| A.33 P32675921 | 38.659 | 5.258 | 38.659 | ASPM          | Homo sapiens atypical spindle homolog, microtubule associated (Drosophila) (ASPM), transcript variant 1, mRNA [NM 018138]              |
| A.33 P3268159  | 38.293 | 5.257 | 38.293 | PRK4          | Homo sapiens protein tyrosine phosphatase (SH-PTPase) (PRK4), transcript variant 1, mRNA [NM 002133]                                   |
| A.33 P3268158  | 38.293 | 5.257 | 38.293 | PRK4          | Homo sapiens protein tyrosine phosphatase (SH-PTPase) (PRK4), transcript variant 1, mRNA [NM 002133]                                   |
| A.21 P0006829  | 37.417 | 5.236 | 37.417 | IL16          | Homo sapiens interleukin 16 (IL16), transcript variant 1, mRNA [NM 004413]   |
| A.23 P3610515  | 36.482 | 5.188 | 36.482 | KLK9          | Homo sapiens kallikrein-related peptidase 9 (KLK9), mRNA [NM 012315]   |
| A.33 P3381895  | 36.385 | 5.185 | 36.385 | KLK9          | Homo sapiens kallikrein-related peptidase 9 (KLK9), mRNA [NM 012315]   |
| A.21 P0004418  | 35.958 | 5.168 | 35.958 | LINC01338     | Homo sapiens long intergenic non-protein coding RNA 1338 (LINC01338), long non-coding RNA [NR 105016]                                  |
| A.23 P138780   | 35.243 | 5.139 | 35.243 | CLCF1         | Homo sapiens cardiotrophin-like cytokine factor 1 (CLCF1), transcript variant 1, mRNA [NM 013246]                                      |
| A.24 P73864    | 34.770 | 5.120 | 34.770 | KRT15         | Homo sapiens chromosome 6 open reading frame 15 (C6orf15), mRNA [NM 014070]  |
| A.33 P2846653  | 34.383 | 5.104 | 34.383 | KRT18P2       | Homo sapiens keratin 18 pseudogene 2 (KRT18P2), non-coding RNA [NR 036685]   |
| A.21 P0010396  | 33.878 | 5.082 | 33.878 | RNF223        | ring finger protein 223 (RNF223), transcript variant 1, mRNA [ENS1000043464]   |
| A.33 P3380839  | 33.876 | 5.082 | 33.876 | RNF223        | ring finger protein 223 (RNF223), transcript variant 1, mRNA [ENS1000043464]   |
| A.33 P328109   | 33.610 | 5.071 | 33.610 | LOEAA         | Homo sapiens late corriflated envelope 4A (LOEAA), mRNA [NM 178356]  |
| A.24 P8571     | 33.581 | 5.070 | 33.581 | SPNS2         | Homo sapiens spinster homolog 2 (Drosophila) (SPNS2), mRNA [NM 001124758]  |
| A.23 P211039   | 32.862 | 5.043 | 32.862 | ADAMTS1       | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 1 (ADAMTS1), mRNA [NM 006688]                                     |
| A.33 P3285456  | 32.862 | 5.043 | 32.862 | C1orf88       | Homo sapiens chromosome 1 open reading frame 88 (C1orf88), mRNA [NM 001024678]   |
| A.23 P2527103  | 32.393 | 5.018 | 32.393 | C9orf131      | Homo sapiens chromosome 9 open reading frame 131 (C9orf131), transcript variant 1, mRNA [NM 203299]                                    |
| A.23 P154053   | 32.096 | 5.004 | 32.096 | ATGBB         | Homo sapiens autophagy-related 9B (ATGBB), transcript variant 1, mRNA [NM 173881]  |
| A.23 P3265778  | 31.788 | 4.988 | 31.788 | PCSB1         | Homo sapiens protein tyrosine phosphatase (SH-PTPase) (PCSB1), transcript variant 1, mRNA [NM 173881]                                  |
| A.22 P0005721  | 31.118 | 4.969 | 31.118 | PCSB          | Homo sapiens protein tyrosine phosphatase (SH-PTPase) (PCSB), transcript variant 1, mRNA [NM 173881]                                   |
| A.23 P118011   | 31.055 | 4.957 | 31.055 | ADAMTS14      | Homo sapiens ADAMTS-like 4 (ADAMTS14), transcript variant 1, mRNA [NM 018032]  |
| A.23 P368811   | 30.961 | 4.952 | 30.961 | RGS50         | Homo sapiens regulator of G-protein signaling 9 (RGS50), transcript variant 1, mRNA [NM 003836]  |
| A.24 P246518   | 30.955 | 4.952 | 30.955 | PKD1L2        | Homo sapiens polycystic kidney disease 1-like 2 (gene, pseudogene) (PKD1L2), transcript variant 1, mRNA [NM 052882]                    |
| A.23 P17379    | 30.892 | 4.949 | 30.892 | PSCA          | Homo sapiens prostate stem cell antigen (PSCA), transcript variant 1, mRNA [NM 005672]   |
| A.21 P0009798  | 30.548 | 4.933 | 30.548 | LINC00675     | Homo sapiens long intergenic non-protein coding RNA 675 (LINC00675), long non-coding RNA [NR 036581]                                   |
| A.32 P27917    | 30.526 | 4.932 | 30.526 | KIF26A        | Homo sapiens kinesin family member 26A (KIF26A), mRNA [NM 015565]  |
| A.32 P324889   | 30.088 | 4.911 | 30.088 | PKD1L2        | Homo sapiens polycystic kidney disease 1-like 2 (gene, pseudogene) (PKD1L2), transcript variant 1, mRNA [NM 052882]                    |
| A.22 P0000728  | 29.880 | 4.887 | 29.880 | Inc-ADAR-1    | LINCpedis lincRNA, Inc-ADAR-1, lincRNA [inc-ADAR-1]  |
| A.24 P326032   | 28.764 | 4.848 | 28.764 | RHOJ          | Homo sapiens ras homolog family member J (RHOJ), mRNA [NM 020683]  |
| A.23 P258612   | 28.577 | 4.837 | 28.577 | ATP8A2        | Homo sapiens ATPase, aminophospholipid transporter, class 1, type 8a, member 2 (ATP8A2), mRNA [NM 016528]                              |
| A.33 P3260654  | 28.170 | 4.816 | 28.170 | PCG1          | Homo sapiens HLA complex group 9 (non-protein coding) (PCG9), long non-coding RNA [NR 026032]  |
| A.23 P368527   | 28.088 | 4.812 | 28.088 | BICG1         | Homo sapiens beta casein constant 1 (SourceHGNC Symbol:HGNC:19351) [ENS10000026103]  |
| A.21 P0010485  | 28.028 | 4.801 | 28.028 | HCG9          | Homo sapiens HLA complex group 9 (non-protein coding) (HCG9), long non-coding RNA [NR 026032]  |
| A.19 P0022339  | 27.870 | 4.800 | 27.870 | LINC01707     | Homo sapiens long intergenic non-protein coding RNA 1707 (LINC01707), long non-coding RNA [NR 038291]                                  |
| A.33 P326658   | 27.852 | 4.792 | 27.852 | ADPZB         | Homo sapiens apolipoprotein domain containing ZB (ADPZB), transcript variant 1, mRNA [NM 001206913]                                    |
| A.23 P326657   | 27.846 | 4.792 | 27.846 | TEK           | Homo sapiens tyrosine kinase, endothelial (TEK), transcript variant 1, mRNA [NM 004499]  |
| A.22 P0027220  | 27.396 | 4.736 | 27.396 | TRDE-AS1      | Homo sapiens late corriflated envelope 3A (LOE3A), transcript variant 1, mRNA [NM 178381]  |
| A.23 P0011837  | 27.168 | 4.764 | 27.168 | TRDE-AS1      | Homo sapiens late corriflated envelope 3A (LOE3A), transcript variant 2, long non-coding RNA [NR 028836]                               |
| A.23 P368471   | 26.877 | 4.748 | 26.877 | LOEAA         | Homo sapiens late corriflated envelope 4A (LOEAA), mRNA [NM 178356]  |
| A.33 P3356821  | 26.553 | 4.731 | 26.553 | LOE1C         | Homo sapiens late corriflated envelope 1C (LOE1C), transcript variant 1, mRNA [NM 178381]  |
| A.22 P00202025 | 26.463 | 4.726 | 26.463 | LURAP1L-AS1   | Homo sapiens LURAP1L-related peptide 1 (LURAP1L-AS1), long non-coding RNA [NR 125775]  |
| A.22 P00100665 | 26.225 | 4.713 | 26.225 | KLK10         | Homo sapiens kallikrein-related peptidase 10 (KLK10), transcript variant 1, mRNA [NM 002775]   |
| A.33 P2417650  | 26.151 | 4.709 | 26.151 | LOC388820     | Homo sapiens uncharacterized LOC388820 (LOC388820), misc RNA [XR 172455]   |
| A.33 P3313835  | 26.102 | 4.706 | 26.102 | PP14571       | Homo sapiens uncharacterized LOC100130448 (PP14571), long non-coding RNA [NR 024014]   |
| A.33 P3388657  | 26.092 | 4.706 | 26.092 | PAPL          | Homo sapiens uncharacterized LOC100130448 (PAPL), long non-coding RNA [NR 024014]  |
| A.33 P3388657  | 26.025 | 4.702 | 26.025 | LINC01265     | Homo sapiens iron/zinc/purple acid phosphatase like protein (IAPPL), mRNA [NM 001004318]   |
| A.21 P0004123  | 26.006 | 4.701 | 26.006 | Inc-ARROCS-1  | Homo sapiens long intergenic non-protein coding RNA 1265 (LINC01265), long non-coding RNA [NR 104631]                                  |
| A.21 P0004466  | 25.959 | 4.698 | 25.959 | PASSF5        | LINCpedis lincRNA, Inc-ARROCS-1, lincRNA [inc-ARROCS-1]  |
| A.24 P336594   | 25.977 | 4.694 | 25.977 | LOC10272873   | Homo sapiens Ras association (RAOS)/RAF-6 domain family member 5 (PASSF5), transcript variant 2, mRNA [NM 182664]                      |
| A.22 P0003829  | 25.988 | 4.677 | 25.988 | LOC10272873   | Homo sapiens Ras association (RAOS)/RAF-6 domain family member 5 (PASSF5), transcript variant 2, mRNA [NM 182664]                      |
| A.22 P0014606  | 25.311 | 4.682 | 25.311 | LOC100856478  | SOX9 antisense RNA 1 (SourceHGNC Symbol:HGNC:48921) [ENS100000446382]  |
| A.21 P0001144  | 25.282 | 4.689 | 25.282 | PCAG3L10      | Homo sapiens uncharacterized LOC100856478 (LOC100856478), mRNA [NM 001189633]  |
| A.23 P110414   | 25.282 | 4.659 | 25.282 | PCAG3L10      | Homo sapiens uncharacterized LOC100856478 (LOC100856478), transcript variant 1, mRNA [NM 001189633]                                    |



|                |        |       |        |        |    |    |  |
|----------------|--------|-------|--------|--------|----|----|--|
| A.33.P2406459  | 18.643 | 4.221 | 18.643 | 18.643 | up | up | Homo sapiens chromosome 20 open reading frame 195 (C20orf195), mRNA [NM_024039]  |
| A.21.P0004421  | 18.638 | 4.220 | 18.638 | 18.638 | up | up | Homo sapiens long cancer associated transcript 1 (non-protein coding), LUGAT1, transcript variant 1, long non-coding RNA [NR_035448] |
| A.23.P17192    | 18.621 | 4.219 | 18.621 | 18.621 | up | up | Homo sapiens Rap guanine nucleotide exchange factor (GEF) 4 (RAP-GEF4), transcript variant 1, mRNA [NM_007023]                       |
| A.23.P29880    | 18.580 | 4.216 | 18.580 | 18.580 | up | up | Homo sapiens C9orf2 molecule (C9orf2), mRNA [NM_001803]  |
| A.33.P295634   | 18.551 | 4.213 | 18.551 | 18.551 | up | up | Homo sapiens proline-rich protein BSM1 subfamily 3 (PRB3), mRNA [NM_008249]  |
| A.21.P0001343  | 18.531 | 4.212 | 18.531 | 18.531 | up | up | LINCpedita lincRNA (linc-ABC03-1), lincRNA, linc-ABC03-1   |
| A.23.P434919   | 18.456 | 4.207 | 18.456 | 18.456 | up | up | Homo sapiens RAB42, member RAS oncogene family (RAB42), transcript variant 2, mRNA [NM_157304]                                       |
| A.19.P0032124  | 18.394 | 4.200 | 18.394 | 18.394 | up | up | Homo sapiens long intergenic non-protein coding RNA 1468 (LINC01468), transcript variant 1, long non-coding RNA [NR_120841]          |
| A.23.P266035   | 18.380 | 4.200 | 18.380 | 18.380 | up | up | Homo sapiens transmembrane protein 88A (TMEM88A), mRNA [NM_153347]   |
| A.23.P266034   | 18.374 | 4.198 | 18.374 | 18.374 | up | up | Homo sapiens family with sequence similarity 85, member B (FAM65B), transcript variant 2, mRNA [NM_016864]                           |
| A.23.P266036   | 18.359 | 4.186 | 18.359 | 18.359 | up | up | Homo sapiens myo target 1 (MYOT1), mRNA [NM_001090600]   |
| A.23.P266037   | 18.344 | 4.186 | 18.344 | 18.344 | up | up | Homo sapiens myo target 2 (MYOT2), mRNA [NM_001090601]   |
| A.33.P2401295  | 18.241 | 4.180 | 18.241 | 18.241 | up | up | Homo sapiens secretory phospholipase A2, group IIA (sPLA2-IIA), mRNA [NM_001090602]  |
| A.23.P2301446  | 18.159 | 4.177 | 18.159 | 18.159 | up | up | Homo sapiens aniline rich 9 (PRB9), mRNA [NM_001195371]  |
| A.23.P2301447  | 18.082 | 4.173 | 18.082 | 18.082 | up | up | Homo sapiens superoxide dismutase 3, extracellular (SOD3), mRNA [NM_003102]  |
| A.23.P2524741  | 18.031 | 4.172 | 18.031 | 18.031 | up | up | Homo sapiens spermidin/spermine N1-acetyltransferase-like 1 (SATL1), mRNA [NM_001023960]   |
| A.21.P0001295  | 17.984 | 4.169 | 17.984 | 17.984 | up | up | ALU1B_HUMAN (P39195), Alu subfamily SX sequence contamination warning entry, partial (7%), [T]HC0773498                              |
| A.21.P0003468  | 17.924 | 4.164 | 17.924 | 17.924 | up | up | ALU1B_HUMAN (P39195), Alu subfamily SX sequence contamination warning entry, partial (7%), [T]HC0773498                              |
| A.23.P15320    | 17.860 | 4.159 | 17.860 | 17.860 | up | up | Homo sapiens intercellular adhesion molecule 1 (ICAM1), mRNA [NM_000201]   |
| A.23.P15320    | 17.749 | 4.149 | 17.749 | 17.749 | up | up | Homo sapiens intercellular adhesion molecule 1 (ICAM1), mRNA [NM_000201]   |
| A.23.P125338   | 17.699 | 4.146 | 17.699 | 17.699 | up | up | LINCpedita lincRNA (linc-WDR1-1), lincRNA, linc-WDR1-1   |
| A.23.P236718   | 17.659 | 4.145 | 17.659 | 17.659 | up | up | Homo sapiens family with sequence similarity 43, member B (FAM43B), mRNA [NM_207354]   |
| A.33.P2449815  | 17.525 | 4.131 | 17.525 | 17.525 | up | up | sublytic translation inhibition factor 4 gamma, 3 [Source:HGNC Symbol;Acc:HGNC:3298] [ENS:00000374933]                               |
| A.22.P00013780 | 17.498 | 4.129 | 17.498 | 17.498 | up | up | Homo sapiens clone IMAGE4098392, mRNA, partial cds, [BC007749]   |
| A.33.P2343588  | 17.417 | 4.122 | 17.417 | 17.417 | up | up | Homo sapiens uncharacterized LOC158493 (LOC158493), long non-coding RNA [NR_036838]  |
| A.21.P0010058  | 17.372 | 4.119 | 17.372 | 17.372 | up | up | BROAD intronic lincRNA XLOC-2-001122, lincRNA, lincXONS_2-00071939   |
| A.22.P2012248  | 17.332 | 4.116 | 17.332 | 17.332 | up | up | PREDICTED, Homo sapiens mitochondrial uncharacterized LOC15282824 (LOC15282824), ncRNA, [X]R_244407                                  |
| A.22.P2012248  | 17.326 | 4.116 | 17.326 | 17.326 | up | up | PREDICTED, Homo sapiens mitochondrial uncharacterized LOC15282824 (LOC15282824), ncRNA, [X]R_244407                                  |
| A.34.P246835   | 17.300 | 4.113 | 17.300 | 17.300 | up | up | Homo sapiens leucine rich repeat domain protein 1 (LRR1), mRNA [NM_001029464]  |
| A.23.P246835   | 17.287 | 4.112 | 17.287 | 17.287 | up | up | Homo sapiens G protein-coupled receptor class C, group 5, member A (GPCR5A), mRNA [NM_008979]  |
| A.22.P00021940 | 17.034 | 4.098 | 17.034 | 17.034 | up | up | Homo sapiens mRNA, cDNA, DNF2688.2011 from clone DNF2688.2011, [AL_833100]   |
| A.24.P263851   | 17.026 | 4.094 | 17.026 | 17.026 | up | up | Homo sapiens cholesteryl ester transfer protein ( CETP), mRNA [NM_022819]  |
| A.23.P263851   | 17.026 | 4.094 | 17.026 | 17.026 | up | up | Homo sapiens cholesteryl ester transfer protein ( CETP), mRNA [NM_022819]  |
| A.33.P246833   | 16.984 | 4.078 | 16.984 | 16.984 | up | up | Homo sapiens BTB (POZ) domain containing 16 (BTBD16), mRNA [NM_144837]   |
| A.33.P246833   | 16.984 | 4.078 | 16.984 | 16.984 | up | up | Homo sapiens BTB (POZ) domain containing 16 (BTBD16), mRNA [NM_144837]   |
| A.22.P2468063  | 16.845 | 4.074 | 16.845 | 16.845 | up | up | Homo sapiens growth arrest and DNA-damage-inducible, beta (GADD45B), mRNA [NM_015675]  |
| A.19.P0013718  | 16.823 | 4.072 | 16.823 | 16.823 | up | up | Homo sapiens long intergenic non-protein coding RNA 859 (LINC00689), transcript variant 1, long non-coding RNA [NR_048241]           |
| A.23.P13717    | 16.807 | 4.071 | 16.807 | 16.807 | up | up | Homo sapiens integrin, beta-like 1 (with EGF-like repeat domains) (ITGBL1), transcript variant 1, mRNA [NM_004791]                   |
| A.23.P17134    | 16.790 | 4.069 | 16.790 | 16.790 | up | up | Homo sapiens mal, T-cell differentiation protein (MAL), transcript variant 1, mRNA [NM_002371]                                       |
| A.24.P122157   | 16.781 | 4.068 | 16.781 | 16.781 | up | up | Homo sapiens leukemia inhibitory factor (LIF), transcript variant 1, mRNA [NM_002309]  |
| A.32.P167904   | 16.739 | 4.065 | 16.739 | 16.739 | up | up | Homo sapiens zinc finger protein 681 (ZNF681), mRNA [NM_139286]  |
| A.21.P0001340  | 16.698 | 4.054 | 16.698 | 16.698 | up | up | LINCpedita lincRNA (linc-ABC03-2), lincRNA, linc-ABC03-2   |
| A.33.P2424237  | 16.663 | 4.052 | 16.663 | 16.663 | up | up | Homo sapiens long intergenic non-protein coding RNA 857 (LINC00857), long non-coding RNA [NR_036464]                                 |
| A.23.P1742     | 16.633 | 4.052 | 16.633 | 16.633 | up | up | Homo sapiens thymidine kinase 1, soluble (TK1), mRNA [NM_002288]   |
| A.22.P2424237  | 16.633 | 4.052 | 16.633 | 16.633 | up | up | Homo sapiens thymidine kinase 1, soluble (TK1), mRNA [NM_002288]   |
| A.22.P0001564  | 16.624 | 4.044 | 16.624 | 16.624 | up | up | LINCpedita lincRNA (linc-GRP93-2), lincRNA, linc-GRP93-2   |
| A.23.P15722    | 16.601 | 4.044 | 16.601 | 16.601 | up | up | LINCpedita lincRNA (linc-GRP93-2), lincRNA, linc-GRP93-2   |
| A.23.P15722    | 16.601 | 4.044 | 16.601 | 16.601 | up | up | LINCpedita lincRNA (linc-GRP93-2), lincRNA, linc-GRP93-2   |
| A.23.P2424237  | 16.576 | 4.042 | 16.576 | 16.576 | up | up | Homo sapiens linker for activation of T cells family, member 2 (LIT2), transcript variant 1, mRNA [NM_032484]                        |
| A.23.P2424237  | 16.576 | 4.042 | 16.576 | 16.576 | up | up | Homo sapiens linker for activation of T cells family, member 2 (LIT2), transcript variant 1, mRNA [NM_032484]                        |
| A.23.P2325540  | 16.429 | 4.038 | 16.429 | 16.429 | up | up | RCE2-ANOR2-140800-017-603 ANOR22, Homo sapiens, cDNA, mRNA sequence [BE013017]   |
| A.22.P00014252 | 16.393 | 4.035 | 16.393 | 16.393 | up | up | Homo sapiens TRHDE antisense RNA 1 (TRHDE-AS1), transcript variant 2, long non-coding RNA [NR_028836]                                |
| A.22.P0000460  | 16.386 | 4.034 | 16.386 | 16.386 | up | up | Homo sapiens TRHDE antisense RNA 1 (TRHDE-AS1), transcript variant 2, long non-coding RNA [NR_028836]                                |
| A.33.P2311493  | 16.304 | 4.027 | 16.304 | 16.304 | up | up | Homo sapiens proline rich 15-like (PRR15L), mRNA [NM_024320]   |
| A.23.P118894   | 16.221 | 4.020 | 16.221 | 16.221 | up | up | Homo sapiens aspartic peptidase, retroviral-like 1 (ASPRV1), mRNA [NM_152792]  |
| A.23.P417383   | 16.211 | 4.019 | 16.211 | 16.211 | up | up | Homo sapiens aspartic peptidase, retroviral-like 1 (ASPRV1), mRNA [NM_152792]  |
| A.22.P260924   | 16.192 | 4.017 | 16.192 | 16.192 | up | up | Homo sapiens claudin 17 (CLDN17), mRNA [NM_012131]   |
| A.22.P00018894 | 16.150 | 4.013 | 16.150 | 16.150 | up | up | Homo sapiens SPARC related modular calcium binding 1 (SMOC1), transcript variant 2, mRNA [NM_022137]                                 |
| A.33.P333603   | 16.063 | 4.008 | 16.063 | 16.063 | up | up | Homo sapiens sulfotransferase family, cytosolic, LC, member 2 pseudogene 1 (SULT1C2P1), non-coding RNA [NR_037191]                   |
| A.33.P3391720  | 15.981 | 3.998 | 15.981 | 15.981 | up | up | Homo sapiens chromosome 4 open reading frame 26 (C4orf26), transcript variant 2, mRNA [NM_179497]                                    |
| A.23.P266288   | 15.973 | 3.998 | 15.973 | 15.973 | up | up | Homo sapiens chromosome 4 open reading frame 26 (C4orf26), transcript variant 2, mRNA [NM_179497]                                    |
| A.33.P293583   | 15.956 | 3.994 | 15.956 | 15.956 | up | up | Homo sapiens bone morphogenetic protein 6 (BMP6), mRNA [NM_001017118]  |
| A.33.P1624     | 15.933 | 3.994 | 15.933 | 15.933 | up | up | Homo sapiens bone morphogenetic protein 6 (BMP6), mRNA [NM_001017118]  |
| A.33.P266286   | 15.916 | 3.992 | 15.916 | 15.916 | up | up | Homo sapiens chitin 3 (COL14A3), mRNA [NM_0010368]   |
| A.33.P266286   | 15.916 | 3.992 | 15.916 | 15.916 | up | up | Homo sapiens chitin 3 (COL14A3), mRNA [NM_0010368]   |
| A.23.P142637   | 15.873 | 3.989 | 15.873 | 15.873 | up | up | Homo sapiens chitin 3 (COL14A3), mRNA [NM_0010368]   |
| A.23.P142637   | 15.873 | 3.989 | 15.873 | 15.873 | up | up | Homo sapiens chitin 3 (COL14A3), mRNA [NM_0010368]   |
| A.23.P101683   | 15.818 | 3.984 | 15.818 | 15.818 | up | up | Homo sapiens Chaperon-Like domain crystal selector (CLCS), mRNA [NM_0014838]   |
| A.23.P062738   | 15.788 | 3.981 | 15.788 | 15.788 | up | up | Homo sapiens actin-binding related cytoskeleton-associated protein (ARCC), mRNA [NM_015193]  |
| A.21.P0002460  | 15.739 | 3.976 | 15.739 | 15.739 | up | up | LINCpedita lincRNA (linc-ILIR2-1), lincRNA, linc-ILIR2-1   |
| A.24.P67365    | 15.728 | 3.975 | 15.728 | 15.728 | up | up | LINCpedita lincRNA (linc-ILIR2-1), lincRNA, linc-ILIR2-1   |
| A.23.P120863   | 15.706 | 3.973 | 15.706 | 15.706 | up | up | Homo sapiens keratin 8, type II (KRT8), transcript variant 2, mRNA [NM_002273]   |
| A.32.P163870   | 15.571 | 3.861 | 15.571 | 15.571 | up | up | Homo sapiens galactose-3-O-sulfotransferase 1 (GAL3ST1), mRNA [NM_004861]  |
| A.33.P348891   | 15.546 | 3.856 | 15.546 | 15.546 | up | up | Homo sapiens chromosome 15 open reading frame 62 (C15orf62), mRNA [NM_00130448]  |
| A.33.P348891   | 15.546 | 3.856 | 15.546 | 15.546 | up | up | Homo sapiens chromosome 15 open reading frame 62 (C15orf62), mRNA [NM_00130448]  |
| A.21.P0013524  | 15.498 | 3.848 | 15.498 | 15.498 | up | up | Homo sapiens gap junction protein, beta 4, 30, beta4 (GJB4), mRNA [NM_153912]  |
| A.21.P0002385  | 15.462 | 3.845 | 15.462 | 15.462 | up | up | PREDICTED, Homo sapiens uncharacterized LOC100506385 (GST-28119.4), transcript variant X3, ncRNA [X]R_432334                         |
| A.23.P147025   | 15.367 | 3.842 | 15.367 | 15.367 | up | up | long intergenic non-protein coding RNA 1248 [Source:Ensembl;GeneAcc:ENST00000458678]   |
| A.23.P288177   | 15.349 | 3.840 | 15.349 | 15.349 | up | up | Homo sapiens RAB33A, member RAS oncogene family (RAB33A), mRNA [NM_004794]   |
| A.23.P103817   | 15.316 | 3.837 | 15.316 | 15.316 | up | up | Homo sapiens serpin peptidase inhibitor, clade A (alpha-1 antitrypsin), member 12 (SERPINA12), mRNA [NM_173950]                      |
| A.24.P108643   | 15.307 | 3.836 | 15.307 | 15.307 | up | up | Homo sapiens mesoxin A3 (ANXA9), mRNA [NM_009388]  |
| A.19.P00006322 | 15.253 | 3.828 | 15.253 | 15.253 | up | up | cardin 18 pseudogene 28 [Source:HGNC Symbol;Acc:HGNC:33393] [ENS:0000463338]   |
| A.33.P266282   | 15.224 | 3.828 | 15.224 | 15.224 | up | up | MUSK10CNA intron 1 (mus musculus) copy 1, vgbp-g, g60, partial (5%), [T]AC2609297  |
| A.33.P266282   | 15.224 | 3.828 | 15.224 | 15.224 | up | up | MUSK10CNA intron 1 (mus musculus) copy 1, vgbp-g, g60, partial (5%), [T]AC2609297  |

|                |        |       |        |                          |    |  |
|----------------|--------|-------|--------|--------------------------|----|--|
| A.22.P00015476 | 15.217 | 3.928 | 15.217 | PRY6                     | up | Q46A15_HUMAN (Q46A15) CYP142 protein, partial (7%) [THC2604186]  |
| A.23.P06461    | 15.205 | 3.927 | 15.205 | SEMA7A                   | up | Homo sapiens pyruvate kinase receptor P2V, G-protein coupled, 6 (P2RV6), transcript variant 2, mRNA [NM_176798]                  |
| A.23.P106889   | 15.177 | 3.924 | 15.177 | MYH16                    | up | Homo sapiens semaphorin 7A, GPI membrane anchor (John Milton Hagen blood group) (SEMA7A), transcript variant 1, mRNA [NM_038112] |
| A.23.P3306078  | 15.158 | 3.922 | 15.158 | MYH16                    | up | Homo sapiens myosin, heavy chain 16, pseudogene (MYH16), non-coding RNA [NR_009147]  |
| A.23.P137865   | 15.148 | 3.921 | 15.148 | MLG1                     | up | Homo sapiens myosin 1, cell surface associated (MLG1), transcript variant 1, mRNA [NM_002456]                                    |
| A.22.P0000677  | 15.135 | 3.920 | 15.135 | linc-FPGS-2              | up | LINCpedia lincRNA linc-FPGS-2, lincRNA [linc-FPGS-2]   |
| A.23.P321511   | 15.123 | 3.919 | 15.123 | 3-Mir                    | up | Homo sapiens membrane-associated ring finger (CFR34) 3, ES ubiquitin protein ligase (MARCH3), mRNA [NM_178450]                   |
| A.19.P0037314  | 15.108 | 3.917 | 15.108 | IGSF23                   | up | Homo sapiens immunoglobulin superfamily, member 23 (IGSF23), mRNA [NM_001205280]   |
| A.22.P0000680  | 15.099 | 3.915 | 15.099 | LINC01488                | up | Homo sapiens long intergenic non-protein coding RNA 1488 (LINC01488), transcript variant 1, long non-coding RNA [NR_120841]      |
| A.19.P0021383  | 15.097 | 3.915 | 15.097 | GOX1A                    | up | Homo sapiens gox1 transcript 1A, GOX1A, mRNA [NM_198447]   |
| A.22.P0000681  | 15.092 | 3.914 | 15.092 | SLC22A14                 | up | SLC22A14-like domain containing 2 (family class member 14) (SLC22A14), transcript variant 1, mRNA [NM_001288233]                 |
| A.32.P027567   | 14.939 | 3.908 | 14.939 | SLC22A14                 | up | Homo sapiens keratin 78, type II (KRT78), transcript variant 1, mRNA [NM_153163]   |
| A.33.P3381023  | 14.883 | 3.908 | 14.883 | PLB1                     | up | Homo sapiens cholesteryl ester protein 1 (PLB1), transcript variant 1, mRNA [NM_153021]  |
| A.22.P0005445  | 14.881 | 3.905 | 14.881 | LOC100288168             | up | Homo sapiens uncharacterized LOC100288168 (LOC100288168), transcript variant 2, long non-coding RNA [NR_028683]                  |
| A.23.P17826    | 14.873 | 3.905 | 14.873 | SLC5A1                   | up | Homo sapiens solute carrier family 5 (sodium/glucose cotransporter), member 1 (SLC5A1), transcript variant 1, mRNA [NM_0003343]  |
| A.33.P3355004  | 14.869 | 3.977 | 14.869 | GGT5                     | up | Homo sapiens gamma-glutamyltransferase 5 (GGT5), transcript variant 1, mRNA [NM_001099781]                                       |
| A.33.P3334423  | 14.668 | 3.975 | 14.668 | SPRR2G                   | up | Homo sapiens small proline-rich protein 2G (SPRR2G), mRNA [NM_001042951]   |
| A.23.P77282    | 14.642 | 3.972 | 14.642 | GCHFR                    | up | Homo sapiens GTP cyclohydrolase, feedback regulator (GCHFR), mRNA [NM_005298]  |
| A.33.P368436   | 14.612 | 3.969 | 14.612 | WFDL2                    | up | Homo sapiens WAP four-disulfide core domain 12 (WFDL2), mRNA [NM_080889]   |
| A.33.P3357658  | 14.530 | 3.961 | 14.530 | HMG2A                    | up | Homo sapiens high mobility group AT-hook 2 (HMG2A), transcript variant 4, mRNA [NM_001300819]                                    |
| A.22.P0002529  | 14.608 | 3.959 | 14.608 | LOC101928716             | up | PREDICTED: homo sapiens uncharacterized LOC101928716 (LOC101928716), mRNA [XR_242166]  |
| A.24.P247074   | 14.506 | 3.959 | 14.506 | keratin 8 pseudogene 37  | up | keratin 8 pseudogene 37 [Source:HGNC Symbol;Acc:HGNC:39871] [ENS:00000451609]  |
| A.22.P0000748  | 14.441 | 3.952 | 14.441 | linc-RNA1987-2           | up | linc-RNA1987-2 [Source:Ensembl;transcript_id:ENST00000251609]  |
| A.23.P330396   | 14.441 | 3.952 | 14.441 | CD3N                     | up | Homo sapiens connectin (CD3N), mRNA [NM_001284]  |
| A.33.P329370   | 14.441 | 3.949 | 14.441 | DFN                      | up | Homo sapiens inhibitor of DNA binding 4, abundant, negative helix-loop-helix protein (DN4), mRNA [NM_001546]                     |
| A.21.P0003517  | 14.351 | 3.948 | 14.351 | LINC51                   | up | Homo sapiens LINC51-LOC440895  |
| A.22.P0001583  | 14.343 | 3.947 | 14.343 | LINC01488                | up | Homo sapiens long intergenic non-protein coding RNA 1488 (LINC01488), transcript variant 1, long non-coding RNA [NR_120841]      |
| A.22.P0001584  | 14.357 | 3.934 | 14.357 | LINC01488                | up | Homo sapiens long intergenic non-protein coding RNA 1488 (LINC01488), transcript variant 1, long non-coding RNA [NR_120841]      |
| A.33.P342103   | 14.276 | 3.933 | 14.276 | ZNF595                   | up | Homo sapiens zinc finger protein 595 (ZNF595), transcript variant 1, mRNA [NM_199451]  |
| A.33.P3382100  | 14.172 | 3.925 | 14.172 | IGFN1                    | up | Homo sapiens immunoglobulin-like and fibronectin type III domain containing 1 (IGFN1), mRNA [NM_001164968]                       |
| A.32.P152896   | 14.171 | 3.925 | 14.171 | keratin 18               | up | keratin 18 pseudogene 52, Source:HGNC Symbol;Acc:HGNC:37888] [ENS:00000404936]   |
| A.24.P258131   | 14.145 | 3.922 | 14.145 | keratin 18               | up | Homo sapiens cDNA FLJ34137, clone FB09F, 3010733, [AK091456]   |
| A.22.P00029239 | 14.132 | 3.921 | 14.132 | FGF1                     | up | Homo sapiens fibroblast growth factor 1 (acidic), [FGF1], transcript variant 1, mRNA [NM_004800]                                 |
| A.23.P213336   | 14.128 | 3.921 | 14.128 | MTLG                     | up | Homo sapiens metallothionein 1G (MT1G), transcript variant 2, mRNA [NM_001301267]  |
| A.33.P3238445  | 14.126 | 3.920 | 14.126 | PRDM1                    | up | Homo sapiens PR domain containing 1, with ZNF domain (PRDM1), transcript variant 1, mRNA [NM_001198]                             |
| A.23.P356451   | 14.125 | 3.920 | 14.125 | PRDM1                    | up | keratin 8 pseudogene 48 [Source:HGNC Symbol;Acc:HGNC:48344] [ENS:00000515599]  |
| A.24.P7750     | 14.102 | 3.918 | 14.102 | EPN3                     | up | Homo sapiens epin 3 (EPN3), mRNA [NM_0017957]  |
| A.23.P130027   | 14.063 | 3.917 | 14.063 | LINC01480                | up | Homo sapiens long intergenic non-protein coding RNA 1490 (LINC01490), transcript variant 1, long non-coding RNA [NR_120468]      |
| A.22.P00016372 | 14.071 | 3.915 | 14.071 | LOC102723846             | up | Homo sapiens germ cell associated 1 (GGS1), transcript variant 1, mRNA [NM_031288]   |
| A.23.P150582   | 14.052 | 3.913 | 14.052 | TEX12                    | up | 2RNBS_HUMAN (GRN03) zinc finger protein 695 (zinc finger protein SFZF3), partial (5%) [THC2841926]                               |
| A.19.P39884    | 14.039 | 3.911 | 14.039 | GSG1                     | up | keratin 18 pseudogene 42 [Source:HGNC Symbol;Acc:HGNC:33412] [ENS:00000595046]   |
| A.21.P003393   | 13.999 | 3.907 | 13.999 | LOC102723846             | up | Homo sapiens cDNA 17120, microarray [UNC93830], mRNA, complete cds, [AY592925]   |
| A.24.P0002645  | 13.974 | 3.906 | 13.974 | UPP1                     | up | Homo sapiens uridine phosphorylase 1 (UPP1), transcript variant 3, mRNA [NM_001282426]   |
| A.24.P000810   | 13.948 | 3.902 | 13.948 | WME                      | up | Homo sapiens membrane and alk-endothelidase (WME), transcript variant 2b, mRNA [NM_007288]                                       |
| A.33.P351215   | 13.929 | 3.900 | 13.929 | LINC00592                | up | keratin 18 pseudogene 49 [Source:HGNC Symbol;Acc:HGNC:33411] [ENS:00000427083]   |
| A.33.P3370084  | 13.924 | 3.908 | 13.924 | LOC1000427083            | up | keratin 18 pseudogene 49 [Source:HGNC Symbol;Acc:HGNC:33411] [ENS:00000427083]   |
| A.24.P230057   | 13.920 | 3.769 | 13.920 | COX7A1                   | up | cytochrome c oxidase subunit VIIa polypeptide 1 (muscle) [Source:HGNC Symbol;Acc:HGNC:22937] [ENS:00000092907]                   |
| A.33.P3386723  | 13.880 | 3.766 | 13.880 | LOC7                     | up | Homo sapiens leucine-rich repeat LGR1, family, member 2 (LGR2), mRNA [NM_018176]   |
| A.23.P67061    | 13.867 | 3.794 | 13.867 | LRIG2                    | up | Homo sapiens mRNA, cDNA DKFZ434C107, from clone DKFZ434C107, [AL338445]  |
| A.33.P3358897  | 13.857 | 3.793 | 13.857 | KRT8P12                  | up | Homo sapiens myotubularin related protein 9-like, pseudogene (MTMR9LP), non-coding RNA [NR_026850]                               |
| A.33.P372837   | 13.844 | 3.791 | 13.844 | MTMR9P                   | up | DPPEP2_MOUSE (GRC255) Dipeptidase 2, precursor (Membrane-bound dipeptidase 2) (MBD-2), partial (4%) [THC2649864]                 |
| A.24.P100413   | 13.729 | 3.779 | 13.729 | linc-OT-5                | up | linc-OT-5 [Source:Ensembl;transcript_id:ENST00000251609]   |
| A.33.P3347457  | 13.727 | 3.779 | 13.727 | CNFN                     | up | BROAD Institute lincRNA XLOC 12 002441, lincRNA [XLOC:12.002441]   |
| A.22.P0004092  | 13.637 | 3.770 | 13.637 | XLOC 12 002441           | up | lincRNA [XLOC:12.002441]   |
| A.33.P3411848  | 13.625 | 3.769 | 13.625 | RRAD                     | up | lincRNA [XLOC:12.002441]   |
| A.21.P003399   | 13.625 | 3.769 | 13.625 | RRAD                     | up | lincRNA [XLOC:12.002441]   |
| A.24.P282777   | 13.580 | 3.764 | 13.580 | LM07                     | up | lincRNA [XLOC:12.002441]   |
| A.24.P282777   | 13.579 | 3.764 | 13.579 | LM07                     | up | lincRNA [XLOC:12.002441]   |
| A.33.P3300805  | 13.574 | 3.763 | 13.574 | LM07                     | up | lincRNA [XLOC:12.002441]   |
| A.22.P0002925  | 13.568 | 3.768 | 13.568 | LM07                     | up | lincRNA [XLOC:12.002441]   |
| A.21.P0013453  | 13.502 | 3.765 | 13.502 | LINC-PINT                | up | Homo sapiens long intergenic non-protein coding RNA 1493 (LINC01493), transcript variant 1, long non-coding RNA [NR_034120]      |
| A.24.P42136    | 13.419 | 3.746 | 13.419 | KRT18                    | up | Homo sapiens keratin 18, type I (KRT18), transcript variant 1, mRNA [NM_000224]  |
| A.21.P0011948  | 13.397 | 3.744 | 13.397 | MIR4435-1                | up | MIR4435-1, host gene, non-protein coding [Source:HGNC Symbol;Acc:HGNC:36163] [ENS:00000089570]                                   |
| A.21.P0007476  | 13.393 | 3.743 | 13.393 | LINC00592                | up | Homo sapiens long intergenic non-protein coding RNA 592 (LINC00592), long non-coding RNA [NR_027358]                             |
| A.23.P164284   | 13.355 | 3.739 | 13.355 | CLDN7                    | up | Homo sapiens claudin 7 (CLDN7), transcript variant 1, mRNA [NM_001307]   |
| A.23.P16469    | 13.284 | 3.726 | 13.284 | PLAUR                    | up | Homo sapiens plasminogen activator, urokinase receptor (PLAUR), transcript variant 3, mRNA [NM_001003377]                        |
| A.21.P0004423  | 13.270 | 3.720 | 13.270 | linc-ARRDC3-1            | up | LINCpedia lincRNA linc-ARRDC3-1, lincRNA [linc-ARRDC3-1]   |
| A.21.P0004423  | 13.195 | 3.722 | 13.195 | HSPB8                    | up | Homo sapiens heat shock 22kDa protein 8 (HSPB8), mRNA [NM_014985]  |
| A.24.P247454   | 13.174 | 3.720 | 13.174 | keratin 18 pseudogene 19 | up | keratin 18 pseudogene 19 [Source:HGNC Symbol;Acc:HGNC:33387] [ENS:00000395181]   |
| A.21.P0006630  | 13.161 | 3.718 | 13.161 | linc-AL137145-1-6        | up | LINCpedia lincRNA linc-AL137145-1-6, lincRNA [linc-AL137145-1-6]   |
| A.33.P369068   | 13.141 | 3.716 | 13.141 | GPR11                    | up | Homo sapiens GDNF family receptor alpha 1 (GFR1), transcript variant 1, mRNA [NM_005294]   |
| A.33.P230148   | 13.136 | 3.715 | 13.136 | GPR11                    | up | Homo sapiens glycoprotein hormone alpha 2 (GPH2), mRNA [NM_130789]   |
| A.23.P47181    | 13.122 | 3.714 | 13.122 | HNRM3                    | up | Homo sapiens tripartite motif containing 63, ES, acquisition protein ligase 1 (HNRM3), mRNA [NM_032458]                          |
| A.33.P369833   | 13.079 | 3.710 | 13.079 | LOC50                    | up | Homo sapiens neuroxin (NLN), transcript variant 3, mRNA [NM_199291]  |
| A.23.P115019   | 13.067 | 3.710 | 13.067 | LOC50                    | up | Homo sapiens lincRNA lincRNA XLOC 12 002441, lincRNA [XLOC:12.002441]  |

|                |        |       |        |                          |   |
|----------------|--------|-------|--------|--------------------------|---|
| A.23 P203801   | 13.076 | 3.709 | 13.076 | LOE1C                    | Homo sapiens late cornified envelope 1 C (LOE1C), transcript variant 1, mRNA [NM 178351]  |
| A.33 P238937   | 13.070 | 3.708 | 13.070 | EPSSB-1                  | Homo sapiens EPSSB-like 1 (EPSSB-1), transcript variant 1, mRNA [NM 133180]   |
| A.23 P108157   | 13.061 | 3.707 | 13.061 | T-IP3                    | Homo sapiens tigt, function protein 3 (T-IP3), transcript variant 1, mRNA [NM 001787560]  |
| A.33 P2318449  | 13.044 | 3.705 | 13.044 | RNF222                   | Homo sapiens ring finger protein 222 (RNF222), mRNA [NM 001146894]  |
| A.33 P2386659  | 13.042 | 3.705 | 13.042 | ATP8A2                   | Homo sapiens ATPase, aminophospholipid transporter, class 1, type 8A, member 2 (ATP8A2), mRNA [NM 016928]                             |
| A.21 P000669   | 13.041 | 3.705 | 13.041 | SFTA1P                   | surfactant associated 1, pseudogene [Source:HGNC Symbol:HGNC:18363] [ENST00000434919]   |
| A.24 P256063   | 13.030 | 3.704 | 13.030 | keratin 18 pseudogene 65 | keratin 18 pseudogene 65 (Source:HGNC Symbol:HGNC:48897) [ENST00000438911]  |
| A.33 P2324095  | 13.001 | 3.704 | 13.001 | CHST12                   | Homo sapiens carboxylate N-acetylglucosaminase-8-O-sulfotransferase 2 (CHST12), mRNA [NM 0094267]                                     |
| A.23 P106850   | 12.989 | 3.697 | 12.989 | ENPP1                    | Homo sapiens ectonucleotide pyrophosphatase phosphodiesterase 1 (ENPP1), mRNA [NM 006528]   |
| A.21 P232549   | 12.983 | 3.693 | 12.983 | PTP1                     | zinc finger protein 11 (Source:HGNC Symbol:HGNC:19189) [ENST00000293292]  |
| A.33 P2326279  | 12.982 | 3.693 | 12.982 | PTP1                     | zinc finger protein 11 (Source:HGNC Symbol:HGNC:19189) [ENST00000293292]  |
| A.32 P2326519  | 12.964 | 3.690 | 12.964 | MDP14                    | Homo sapiens MDP-1 family member 4 (MDP14), mRNA [NM 020945]  |
| A.21 P0010491  | 12.859 | 3.685 | 12.859 | CI2orf80                 | Homo sapiens chromosome 12 open reading frame 80 (CI2orf80), mRNA [NM 001242688]  |
| A.33 P2368665  | 12.856 | 3.684 | 12.856 | DNASE1L2                 | Homo sapiens deoxyribonuclease 1-like 2 (DNASE1L2), transcript variant 1, mRNA [NM 0013741]   |
| A.23 P23643    | 12.813 | 3.681 | 12.813 | AEILM3                   | Homo sapiens actin binding LIM protein family, member 3 (AEILM3), transcript variant 2, mRNA [NM 0149445]                             |
| A.24 P123408   | 12.810 | 3.679 | 12.810 | BROAD                    | BROAD Inhibitor RNA XLOC_0215849, lincRNA [COONS_2_00000833]  |
| A.21 P0013836  | 12.792 | 3.676 | 12.792 | XLOC_0215849             | BROAD Inhibitor RNA XLOC_0215849, lincRNA [COONS_2_00000833]  |
| A.23 P118158   | 12.756 | 3.673 | 12.756 | HSS312                   | Homo sapiens heparan sulfate glucosaminase 3-O-sulfotransferase 2, HSS312, mRNA [NM 006043]   |
| A.33 P24243    | 12.740 | 3.671 | 12.740 | UPK2                     | Homo sapiens urokinase 2 (UPK2), mRNA [NM 008760]   |
| A.33 P2413871  | 12.725 | 3.670 | 12.725 | ABL2                     | Homo sapiens ABL proto-oncogene 2, non-receptor tyrosine kinase (ABL2), transcript variant b, mRNA [NM 007314]                        |
| A.23 P216225   | 12.665 | 3.663 | 12.665 | EGFR3                    | Homo sapiens early growth response 3 (EGFR3), transcript variant 1, mRNA [NM 004430]  |
| A.33 P2329112  | 12.663 | 3.661 | 12.663 | PTGHI                    | patched 1 (Source:HGNC Symbol:HGNC:9365) [ENST00000372690]  |
| A.33 P232928   | 12.652 | 3.658 | 12.652 | ANKRD31                  | Homo sapiens ankyrin repeat domain 31 (ANKRD31), mRNA [NM 001164443]  |
| A.21 P0001342  | 12.619 | 3.658 | 12.619 | inc-ABC03-2              | lincRNA [inc-ABC03-2], lincRNA [inc-ABC03-2]  |
| A.21 P0014515  | 12.613 | 3.657 | 12.613 | LOC101929461             | Homo sapiens uncharacterized LOC101929461 (LOC101929461), long non-coding RNA [NR 125895]   |
| A.22 P0004682  | 12.596 | 3.645 | 12.596 | OSBP2                    | Homo sapiens uncharacterized LOC10097384 (LOC10097384), long non-coding RNA [NR 041968]   |
| A.33 P231418   | 12.484 | 3.642 | 12.484 | OSBP2                    | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM 020718]  |
| A.33 P231419   | 12.483 | 3.642 | 12.483 | OSBP2                    | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM 020718]  |
| A.33 P231420   | 12.482 | 3.642 | 12.482 | OSBP2                    | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM 020718]  |
| A.33 P231421   | 12.481 | 3.642 | 12.481 | OSBP2                    | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM 020718]  |
| A.33 P231422   | 12.477 | 3.641 | 12.477 | OSBP2                    | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM 020718]  |
| A.22 P00033940 | 12.472 | 3.641 | 12.472 | SAPCD2                   | keratin 8 pseudogene 44 (Source:HGNC Symbol:HGNC:38978) [ENST00000441600]   |
| A.33 P2417589  | 12.449 | 3.638 | 12.449 | SAPCD2                   | Homo sapiens suppressor APC domain containing 2 (SAPCD2), mRNA [NM 178448]  |
| A.24 P103517   | 12.434 | 3.636 | 12.434 | inc-IL1R2-1              | lincRNA [inc-IL1R2-1], lincRNA [inc-IL1R2-1]  |
| A.21 P0002261  | 12.403 | 3.633 | 12.403 | inc-IL1R2-1              | lincRNA [inc-IL1R2-1], lincRNA [inc-IL1R2-1]  |
| A.21 P0001927  | 12.385 | 3.631 | 12.385 | LOC101929282             | Homo sapiens uncharacterized LOC101929282 (LOC101929282), transcript variant 1, long non-coding RNA [NR 1102444]                      |
| A.24 P148717   | 12.344 | 3.626 | 12.344 | CCR1                     | Homo sapiens chemokine (C-C motif) receptor 1 (CCR1), mRNA [NM 001295]  |
| A.33 P2321980  | 12.283 | 3.619 | 12.283 | KRT180                   | Homo sapiens keratin 80, type II (KRT180), transcript variant 1, mRNA [NM 182407]   |
| A.24 P2311704  | 12.267 | 3.617 | 12.267 | inc-ARRDC3-1             | lincRNA [inc-ARRDC3-1], lincRNA [inc-ARRDC3-1]  |
| A.21 P0004422  | 12.263 | 3.616 | 12.263 | OSBP2                    | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM 020718]  |
| A.22 P0001526  | 12.213 | 3.610 | 12.213 | OSBP2                    | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM 020718]  |
| A.23 P29975    | 12.185 | 3.607 | 12.185 | Cher18                   | Homo sapiens chromosome 4 open reading frame 19 (Cher18), transcript variant 2, mRNA [NM 018302]                                      |
| A.23 P29878    | 12.172 | 3.605 | 12.172 | CAPN8                    | Homo sapiens cathepsin 8 (CAPN8), mRNA [NM 001145892]   |
| A.22 P0022323  | 12.172 | 3.605 | 12.172 | inc-PPP2R2A-2            | lincRNA [inc-PPP2R2A-2], lincRNA [inc-PPP2R2A-2]  |
| A.33 P232502   | 12.139 | 3.602 | 12.139 | ARRGAP28                 | Homo sapiens Rho GTPase activating protein 29 (ARRGAP29), mRNA [NM 004619]  |
| A.22 P232502   | 12.138 | 3.602 | 12.138 | ARRGAP28                 | Homo sapiens Rho GTPase activating protein 29 (ARRGAP29), mRNA [NM 004619]  |
| A.32 P232502   | 12.138 | 3.602 | 12.138 | ARRGAP28                 | Homo sapiens Rho GTPase activating protein 29 (ARRGAP29), mRNA [NM 004619]  |
| A.22 P232502   | 12.138 | 3.602 | 12.138 | ARRGAP28                 | Homo sapiens Rho GTPase activating protein 29 (ARRGAP29), mRNA [NM 004619]  |
| A.23 P114047   | 12.092 | 3.598 | 12.092 | BCSY2                    | Homo sapiens MDR1-related domain containing 2 (BCSY2), mRNA [NM 002923]   |
| A.22 P00025954 | 12.068 | 3.592 | 12.068 | LOC101929711             | Homo sapiens uncharacterized LOC101929711 (LOC101929711), long non-coding RNA [NR 125988]   |
| A.21 P0014466  | 12.043 | 3.590 | 12.043 | LOC101929152             | PREDICTED: Homo sapiens uncharacterized LOC101929152 (LOC101929152), pseudogene 1, mRNA [NM 138456]                                   |
| A.33 P238651   | 12.037 | 3.589 | 12.037 | BNIP3L                   | Homo sapiens BCL2 interacting protein 3-like (BNIP3L), mRNA [NM 004331]   |
| A.23 P212800   | 12.033 | 3.588 | 12.033 | FEF5                     | Homo sapiens fibroblast growth factor 5 (FGF5), transcript variant 1, mRNA [NM 004464]  |
| A.22 P00022805 | 12.029 | 3.588 | 12.029 | inc-HNRNPA3-2            | 0300724191 NH MGC 119 Homo sapiens cDNA clone IMAGE5164397 5', mRNA sequence [B1829310]   |
| A.22 P0007780  | 11.984 | 3.584 | 11.984 | inc-HNRNPA3-2            | lincRNA [inc-HNRNPA3-2], lincRNA [inc-HNRNPA3-2]  |
| A.23 P232708   | 11.985 | 3.583 | 11.985 | KRT18P55                 | Homo sapiens keratin 18 pseudogene 55 (KRT18P55), non-coding RNA [NR 028334]  |
| A.32 P224224   | 11.981 | 3.583 | 11.981 | LOC845195                | Homo sapiens cDNA FLJ41456 ff. clone BHS12N012320, AK122450   |
| A.33 P2361147  | 11.981 | 3.583 | 11.981 | EPSSB-1                  | MIR4445-1 host gene (non-protein coding) [Source:HGNC Symbol:HGNC:35163] [ENST000000371182]   |
| A.33 P2320088  | 11.971 | 3.581 | 11.971 | PLCXD1                   | Homo sapiens EPSSB-like 1 (EPSSB-1), transcript variant 1, mRNA [NM 133180]   |
| A.33 P2407937  | 11.954 | 3.579 | 11.954 | ZNF114                   | Homo sapiens phosphatidylinositol-specific phospholipase C, X domain containing 1 (PLCXD1), transcript variant 1, mRNA [NM 018190]    |
| A.23 P2368779  | 11.948 | 3.579 | 11.948 | ZNF114                   | Homo sapiens zinc finger protein 114 (ZNF114), transcript variant 1, mRNA [NM 153808]   |
| A.23 P137435   | 11.912 | 3.574 | 11.912 | CSO2                     | Homo sapiens CSO2 molecule (CSO2), transcript variant 1, mRNA [NM 014680]   |
| A.23 P102625   | 11.899 | 3.573 | 11.899 | CH7C2                    | Homo sapiens olfactory receptor family 7, subfamily C, member 2 (CH7C2), mRNA [NM 012377]   |
| A.33 P2368774  | 11.888 | 3.570 | 11.888 | UCV1                     | Homo sapiens galactose 4-epimerase (GAL4), mRNA [NM 018973]   |
| A.34 P406276   | 11.864 | 3.568 | 11.864 | GCAN15                   | Homo sapiens very low density lipoprotein acceptor (GCAN15), mRNA [NM 014566]   |
| A.33 P2324383  | 11.760 | 3.558 | 11.760 | AFI1                     | AEAF/FAF2 family member 1 (Source:HGNC Symbol:HGNC:7135) [ENST00000506563]  |
| A.24 P2376847  | 11.764 | 3.558 | 11.764 | KLK4                     | Homo sapiens kallikrein-related peptidase 4 (KLK4), transcript variant 1, mRNA [NM 008117]  |
| A.23 P230662   | 11.754 | 3.555 | 11.754 | BATF2                    | Homo sapiens basic leucine zipper transcription factor, ATF-like 2 (BATF2), transcript variant 1, mRNA [NM 138456]                    |
| A.21 P0010816  | 11.751 | 3.555 | 11.751 | ATP8A2                   | aminophospholipid transporter, class 1, type 8A, member 2 (ATP8A2), transcript variant 1, mRNA [NM 138456]                            |
| A.23 P14072    | 11.739 | 3.553 | 11.739 | KRT18                    | Homo sapiens keratin 8, type II (KRT18), transcript variant 2, mRNA [NM 002273]   |
| A.33 P23276703 | 11.732 | 3.552 | 11.732 | VGF                      | Homo sapiens VGF, nerve growth factor inducible (VGF), mRNA [NM 003278]   |
| A.32 P2418209  | 11.704 | 3.549 | 11.704 | ITGBL1                   | Homo sapiens integrin, beta-like 1 (with EGF-like repeat domains) (ITGBL1), transcript variant 1, mRNA [NM 004714]                    |
| A.32 P198894   | 11.704 | 3.549 | 11.704 | ABL2                     | Homo sapiens ABL proto-oncogene 2, non-receptor tyrosine kinase (ABL2), transcript variant b, mRNA [NM 007314]                        |
| A.33 P2388504  | 11.656 | 3.543 | 11.656 | LIMS2                    | Homo sapiens LIM and senescent cell antigen-like domains 2 (LIMS2), transcript variant b, mRNA [NM 001161404]                         |
| A.32 P416161   | 11.613 | 3.538 | 11.613 | XKR5                     | Homo sapiens XK, kel blood group complex subunit-related, X-linked (XKR5), mRNA [NM 01212559]   |
| A.21 P002769   | 11.605 | 3.537 | 11.605 | G7N146                   | G7N146 GLOV (G7N146) Cytochrome c550, paratid (8) [TC2717131]   |
| A.24 P510377   | 11.605 | 3.537 | 11.605 | GNP6                     | Homo sapiens cDNA clone IMAGE598928 (G598928)   |
| A.33 P246116   | 11.570 | 3.532 | 11.570 | inc-ANKRD0-1             | Homo sapiens glycoprotein VI (diallel) (GNP6), transcript variant 1, mRNA [NM 00108389]   |
| A.33 P22242    | 11.555 | 3.531 | 11.555 | inc-ANKRD0-1             | Homo sapiens membrane-associated ring finger (GNP6C4) 7, E3 ubiquitin protein ligase (MARCH7), transcript variant 2, mRNA [NM 022828] |
| A.21 P0026716  | 11.546 | 3.528 | 11.546 | inc-SREK1-1              | ZNF181, HUMAN (ZNF181) [MIM:600003]0322, paratid (8) [TC2377843]  |
| A.21 P260468   | 11.537 | 3.528 | 11.537 | inc-SREK1-1              | lincRNA [inc-SREK1-1], lincRNA [inc-SREK1-1]  |

|                |        |       |    |  |   |
|----------------|--------|-------|----|--|---|
| A.22.P00000614 | 11.536 | 3.128 | up | KCM12-AS1  | Homo sapiens CXMT2 antisense RNA 1 (CGMT2-AS.1), transcript variant 3, long non-coding RNA [NR 034123]  |
| A.33.P3367392  | 11.520 | 3.229 | up | FAM107B  | Homo sapiens family with sequence similarity 107, member B (FAM107B), mRNA [NM 022648]  |
| A.24.P418645   | 11.520 | 3.329 | up | KLK13  | Homo sapiens kallikrein-related peptidase 13 (KLK13), mRNA [NM 015996]  |
| A.32.P178845   | 11.490 | 3.322 | up | YOD1   | Homo sapiens YOD1 deubiquitinase (YOD1), transcript variant 1, mRNA [NM 018586]   |
| A.32.P131001   | 11.458 | 3.618 | up | MAGC1  | Homo sapiens magacin associated in colon cancer 1 (MAGC1), mRNA [NM 182782]   |
| A.22.P00015305 | 11.448 | 3.617 | up | SPINK7   | Homo sapiens serine peptidase inhibitor, Kazal type 7 (putative) (SPINK7), mRNA [NM 032956]   |
| A.33.P140434   | 11.446 | 3.617 | up | MYO5C  | Homo sapiens myosin Vc (MYO5C), mRNA [NM 018728]  |
| A.33.P3366391  | 11.435 | 3.615 | up | keratin 18 pseudogene 59 (Source:HGNC Symbol;Acc:HGNC:48888) [ENST00000594728] |   |
| A.22.P0007202  | 11.428 | 3.614 | up | UNC00113   | Homo sapiens long intergenic non-protein coding RNA 113 (UNC00113), long non-coding RNA [NR 024357]   |
| A.33.P3362220  | 11.412 | 3.612 | up | UNC00121   | Homo sapiens long intergenic non-protein coding RNA 121 (UNC00121), long non-coding RNA [NR 039156]   |
| A.33.P336594   | 11.412 | 3.612 | up | UNC00121   | Homo sapiens long intergenic non-protein coding RNA 121 (UNC00121), long non-coding RNA [NR 039156]   |
| A.33.P336594   | 11.388 | 3.610 | up | UNC00121   | Homo sapiens long intergenic non-protein coding RNA 121 (UNC00121), long non-coding RNA [NR 039156]   |
| A.34.P17058    | 11.375 | 3.602 | up | RASSF5   | Homo sapiens Ras association domain family 5 (RASSF5), member 5 (RASSF5), transcript variant 2, mRNA [NM 018977]                                  |
| A.33.P3366183  | 11.323 | 3.601 | up | TCM1   | Homo sapiens transcription factor 1 (TCM1), mRNA [NM 000368]  |
| A.33.P33614343 | 11.322 | 3.601 | up | TCM1   | Homo sapiens transcription factor 1 (TCM1), mRNA [NM 000368]  |
| A.33.P33637080 | 11.309 | 3.599 | up | FLG2   | GWFFS ECHON (GWFFS) NADH dehydrogenase subunit 2, partial (5%) (HIC2801170)   |
| A.21.P0006688  | 11.268 | 3.604 | up | SFT1AIP  | Homo sapiens surfactant associated 1, pseudogene (SFT1AIP), non-coding RNA [NR 027082]  |
| A.23.P148189   | 11.266 | 3.604 | up | ZFP4   | Homo sapiens zona pellucida glycoprotein 4 (ZFP4), mRNA [NM 021186]   |
| A.23.P61180    | 11.190 | 3.684 | up | PLCXD1   | Homo sapiens phosphatidylinositol-specific phospholipase C, X domain containing 1 (PLCXD1), transcript variant 1, mRNA [NM 018330]                |
| A.21.P0010590  | 11.183 | 3.483 | up | XLOC 12 000384   | BROAD Institute lincRNA XLOC 12 000384, lincRNA [CONTS 12 00000387]   |
| A.21.P002616   | 11.179 | 3.483 | up | linc-TNF-IP3-2   | LINC01624 lincRNA linc-TNF-IP3-2, lincRNA [CONTS 12 00000387]   |
| A.33.P342462   | 11.175 | 3.482 | up | CN1ST  | Homo sapiens conserved, conserved sorting protein (CN1ST), transcript variant 2, mRNA [NM 001139459]  |
| A.33.P336862   | 11.106 | 3.473 | up | NUTM2B   | Homo sapiens NUT family member 2B (NUTM2B), mRNA [NM 001278495]   |
| A.23.P19754    | 11.064 | 3.468 | up | CP4A4  | Homo sapiens G protein-coupled receptor 110 (GPR110), transcript variant 1, mRNA [NM 025048]  |
| A.33.P3361488  | 11.022 | 3.462 | up | THIDE-AS1  | Homo sapiens THIDE antisense RNA 1 (THIDE-AS1), transcript variant 1, long non-coding RNA [NR 028837]   |
| A.33.P3318661  | 11.019 | 3.462 | up | EZF7   | Homo sapiens E2F transcription factor 7 (EZF7), mRNA [NM 203394]  |
| A.23.P36785    | 11.015 | 3.462 | up | GCN5A1S  | Homo sapiens calcium channel, voltage-dependent, L type alpha 1S subunit (GCN5A1S), mRNA [NM 000266]  |
| A.33.P3361488  | 11.015 | 3.462 | up | GCN5A1S  | Homo sapiens calcium channel, voltage-dependent, L type alpha 1S subunit (GCN5A1S), mRNA [NM 000266]  |
| A.21.P000442   | 10.985 | 3.467 | up | linc-COR163-2  | LINC01624 lincRNA linc-COR163-2, lincRNA [CONTS 12 00000387]  |
| A.23.P278661   | 10.969 | 3.455 | up | BCGN13   | Homo sapiens UDP-Gluc4Ac beta4 beta1 beta1-3-N-acetylglucosaminyltransferase 3 (BCGN13), mRNA [NM 014256]   |
| A.22.P00012260 | 10.945 | 3.452 | up | LOC1A  | Homo sapiens late endosomal envelope 1A (LOC1A), mRNA [NM 178348]   |
| A.33.P3363912  | 10.928 | 3.450 | up | TRIP13   | Homo sapiens thyroid hormone receptor, interactor 13 (TRIP13), transcript variant 1, mRNA [NM 004237]   |
| A.19.P00800339 | 10.920 | 3.449 | up | LOC100130476   | Homo sapiens uncoupled receptor 13 (LOC100130476), long non-coding RNA [NR 048795]  |
| A.23.P2010205  | 10.891 | 3.445 | up | GBA  | Homo sapiens glucosylcerase, beta, acid (GBA), transcript variant 2, mRNA [NM 001005741]  |
| A.33.P3363430  | 10.880 | 3.444 | up | FAM25A   | keratin 8 pseudogene 15 (Source:HGNC Symbol;Acc:HGNC:3387) [ENST00000429226]  |
| A.21.P0010942  | 10.875 | 3.443 | up | FAM25A   | Homo sapiens family with sequence similarity 25, member A (FAM25A), mRNA [NM 001148157]   |
| A.33.P3369761  | 10.821 | 3.438 | up | KRT23  | Homo sapiens keratin 23, type I (KRT23), transcript variant 1, mRNA [NM 015515]   |
| A.23.P402488   | 10.807 | 3.434 | up | NLRP10   | Homo sapiens NLR family, pyrin domain containing 10 (NLRP10), mRNA [NM 178821]  |
| A.33.P3365545  | 10.805 | 3.434 | up | CLDN4  | Homo sapiens claudin 4 (CLDN4), mRNA [NM 001305]  |
| A.21.P0012088  | 10.800 | 3.433 | up | UNC00137   | long intergenic non-protein coding RNA 137 (Source:HGNC Symbol;Acc:HGNC:28717) [ENST00000437981]  |
| A.33.P3362810  | 10.777 | 3.430 | up | UNC00137   | long intergenic non-protein coding RNA 137 (Source:HGNC Symbol;Acc:HGNC:28717) [ENST00000437981]  |
| A.21.P0007044  | 10.758 | 3.427 | up | UNC00137   | long intergenic non-protein coding RNA 137 (Source:HGNC Symbol;Acc:HGNC:28717) [ENST00000437981]  |
| A.33.P3361853  | 10.753 | 3.426 | up | UNC00137   | long intergenic non-protein coding RNA 137 (Source:HGNC Symbol;Acc:HGNC:28717) [ENST00000437981]  |
| A.33.P3361853  | 10.712 | 3.421 | up | UNC00137   | long intergenic non-protein coding RNA 137 (Source:HGNC Symbol;Acc:HGNC:28717) [ENST00000437981]  |
| A.33.P3361853  | 10.712 | 3.421 | up | UNC00137   | long intergenic non-protein coding RNA 137 (Source:HGNC Symbol;Acc:HGNC:28717) [ENST00000437981]  |
| A.21.P0011649  | 10.698 | 3.418 | up | XLOC 12 008203   | BROAD Institute lincRNA XLOC 12 008203, lincRNA [CONTS 12 00014193]   |
| A.24.P2818355  | 10.613 | 3.608 | up | GRAPL  | Homo sapiens GRB2-related adaptor protein-like (GRAPL), mRNA [NM 001128178]   |
| A.33.P3411477  | 10.584 | 3.404 | up | NGC9P1   | Homo sapiens non-specific cytochrome c cell receptor, protein 1, homolog (zebrafish) (NGC9P1), mRNA [NM 001001414]                                |
| A.33.P2418527  | 10.555 | 3.400 | up | OR10A6   | Homo sapiens olfactory receptor, family 10, subfamily A, member 6 (gene/pseudogene) (OR10A6), mRNA [NM 001004461]                                 |
| A.21.P0005154  | 10.550 | 3.399 | up | linc-EQJ2-2  | LINC01624 lincRNA linc-EQJ2-2, lincRNA [linc-EQJ2-2]  |
| A.22.P00017154 | 10.535 | 3.397 | up | G5FPA9_GLUCX (G5FPA9)  | Manganoase transport protein, Mat1, partial (5%) (HIC2973915)   |
| A.32.P186263   | 10.528 | 3.396 | up | ADAMT1S9   | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 9 (ADAMT1S9), mRNA [NM 182920]   |
| A.32.P512061   | 10.500 | 3.392 | up | GBAP1  | Homo sapiens glucosidase, beta, acid pseudogene 1 (GBAP1), non-coding RNA [NR 002188]   |
| A.33.P3377811  | 10.491 | 3.391 | up | COG4   | microRNA 29b-1 (Source:HGNC Symbol;Acc:HGNC:31819) [ENST00000432045]  |
| A.33.P42386    | 10.469 | 3.381 | up | ANKRD2   | Homo sapiens glucocorticoid hormone, alpha polypeptide (GGA), transcript variant 2, mRNA [NM 000735]  |
| A.33.P327862   | 10.478 | 3.388 | up | FLG  | Homo sapiens aryl-ether repeat domain 2 (stretch responsive muscle) (ANKRD2), transcript variant 1, mRNA [NM 001291218]                           |
| A.33.P3367648  | 10.471 | 3.388 | up | PM1  | Homo sapiens flagrin (FLG), mRNA [NM 002016]  |
| A.33.P3450118  | 10.421 | 3.381 | up | PM1  | Homo sapiens Pim-1 proto-oncogene, serine/threonine kinase (PM1), transcript variant 1, mRNA [NM 002648]  |
| A.21.P0006130  | 10.408 | 3.380 | up | ANLN   | UHF-F507-aa-9-14-Q-UHF-NH-MG2 213 Homo sapiens adna clone IMAGE3066781.3, mRNA sequence [CF 18727]  |
| A.33.P336814   | 10.389 | 3.379 | up | CFP8A1   | Homo sapiens anilin, acid phosphatase protein domain containing 1 (CFP8A1), transcript variant 1, mRNA [NM 039291]                                |
| A.33.P3362470  | 10.370 | 3.374 | up | CSERP1   | Homo sapiens cytoskeleton spectrin-associated protein 1 (CSERP1), mRNA [NM 002070]  |
| A.33.P3362674  | 10.340 | 3.370 | up | KLK13  | Homo sapiens kallikrein-related peptidase 13 (KLK13), mRNA [NM 015996]  |
| A.22.P00003004 | 10.323 | 3.368 | up | LOC100507682   | Homo sapiens kallikrein-related peptidase 13 (KLK13), mRNA [NM 015996]  |
| A.23.P251021   | 10.317 | 3.367 | up | HCG9   | Homo sapiens HLA complex, group 9 (non-protein coding) (HCG9), long non-coding RNA [NF 028032]  |
| A.23.P501713   | 10.312 | 3.366 | up | ILF10  | Homo sapiens interlukin 1 family, member 10 (theta) (ILF10), transcript variant 1, mRNA [NM 032556]   |
| A.23.P87862    | 10.310 | 3.366 | up | ATP12A   | Homo sapiens ATPase, H <sup>+</sup> /K <sup>+</sup> -transporting, neurogenic, alpha polypeptide (ATP12A), transcript variant 2, mRNA [NM 001676] |
| A.33.P11190    | 10.284 | 3.362 | up | VIM  | Homo sapiens vimentin (VIM), mRNA [NM 003380]   |
| A.33.P3814721  | 10.241 | 3.356 | up | NNSC   | Homo sapiens insculcable homolog (Drosophila) (NNSC), transcript variant 1, mRNA [NM 001031853]   |
| A.33.P344421   | 10.225 | 3.354 | up | ROBO4  | Homo sapiens roundabout, axon guidance receptor, homolog 4 (Drosophila) (ROBO4), transcript variant 1, mRNA [NM 019855]                           |
| A.33.P334252   | 10.215 | 3.353 | up | CAPN8  | calpain 8 (Source:HGNC Symbol;Acc:HGNC:1485) [ENST00000368872]  |
| A.33.P322675   | 10.191 | 3.349 | up | MUC20  | Homo sapiens mucin 20, cell surface associated (MUC20), transcript variant 5, mRNA [NM 00109815]  |
| A.23.P154626   | 10.191 | 3.349 | up | GBH14  | Homo sapiens growth factor receptor-bound protein 14 (GBH14), transcript variant 1, mRNA [NM 004490]  |
| A.33.P670268   | 10.188 | 3.349 | up | ATGBB  | autophagy-related 9B (Source:HGNC Symbol;Acc:HGNC:21189) [ENST00000407331]  |
| A.22.P0003786  | 10.178 | 3.347 | up | ATGBB  | Homo sapiens autophagy-related 9B (ATGBB), transcript variant 1, mRNA [NM 173681]   |
| A.33.P336308   | 10.171 | 3.344 | up | ATGBB  | Homo sapiens Bloom syndrome, riceO nuclease-like (BLM) transcript variant 1, mRNA [NM 000087]   |
| A.23.P274682   | 10.137 | 3.344 | up | ADAM19   | Homo sapiens ADAM metalloproteinase domain 19 (ADAM19), mRNA [NM 039214]  |

|                |        |       |        |              |  |
|----------------|--------|-------|--------|--------------|--|
| A.22.P00001610 | 10.150 | 3.343 | 10.150 | WBSRCZ7      | Homo sapiens Williams Beuren syndrome chromosome region Z7, WBSRCZ7, mRNA [NM.152959]  |
| A.23.P281017   | 10.140 | 3.342 | 10.140 | UBL3         | Homo sapiens ubiquitin-like 3 (UBL3), mRNA [NM.007106]   |
| A.23.P14029    | 10.103 | 3.337 | 10.103 | inc-ESRP2-1  | LINC01428, lincRNA [inc-ESRP2-1], lincRNA [inc-ESRP2-1]  |
| A.33.P227457   | 10.068 | 3.332 | 10.068 | inc-ESRP2-1  | glucosylase, beta, acid pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:4178] [ENS10000586701]   |
| A.22.P0000881  | 10.038 | 3.327 | 10.038 | CFLAR        | Homo sapiens CASP8 and FADD-like apoptosis regulator (CFLAR), transcript variant 3, mRNA [NM.01127184]   |
| A.21.P0014848  | 10.002 | 3.322 | 10.002 | up           | SDAI, domain containing 1, pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:31403] [ENS100000519092]  |
| A.23.P206394   | 9.947  | 3.314 | 9.947  | up           | Homo sapiens ras homolog family member E (on thapsigargin), mRNA [NM.010324]   |
| A.23.P1001310  | 9.933  | 3.312 | 9.933  | up           | Homo sapiens ras homolog family member E (on thapsigargin), mRNA [NM.010324]   |
| A.23.P1004119  | 9.927  | 3.311 | 9.927  | up           | Homo sapiens family with sequence similarity 28, member A (FAM259), mRNA [NM.01146157]   |
| A.22.P43138    | 9.910  | 3.309 | 9.910  | FAM25A       | Homo sapiens family with sequence similarity 28, member A (FAM259), mRNA [NM.01146157]   |
| A.23.P352319   | 9.876  | 3.304 | 9.876  | up           | Homo sapiens alpha-2-macroglobulin 2, transcript variant 2, mRNA [NM.024267]   |
| A.23.P352320   | 9.876  | 3.304 | 9.876  | up           | Homo sapiens alpha-2-macroglobulin 2, transcript variant 2, mRNA [NM.024267]   |
| A.33.P2329670  | 9.846  | 3.300 | 9.846  | LINC010704   | LINC010704, lincRNA [LINC010704], long non-coding RNA [NR.024425]  |
| A.21.P0006579  | 9.838  | 3.298 | 9.838  | inc-19A-1    | LINC01428, lincRNA [inc-19A-1], lincRNA [inc-19A-1]  |
| A.33.P3388317  | 9.825  | 3.297 | 9.825  | DNAH5        | Homo sapiens DNAH5 (Hsc40) homolog, subfamily B, member 5, DNAH5, transcript variant 1, mRNA [NM.001138005]  |
| A.22.P0020772  | 9.814  | 3.295 | 9.814  | LOC101928461 | Homo sapiens uncharacterized LOC101928461 (LOC101928461), long non-coding RNA [NR.129388]  |
| A.23.P148609   | 9.770  | 3.288 | 9.770  | PLAG1        | Homo sapiens placenta-specific 1 (PLAG1), mRNA [NM.021796]   |
| A.23.P104741   | 9.768  | 3.288 | 9.768  | KIFREL3      | Homo sapiens kinesin-like protein 3 (KIFREL3), transcript variant 1, mRNA [NM.0242331]   |
| A.33.P2181803  | 9.762  | 3.287 | 9.762  | CEL          | Homo sapiens carboxyl ester lipase (CEL), transcript variant 1, mRNA [NM.001807]   |
| A.21.P0006188  | 9.720  | 3.281 | 9.720  | CDC417-AS1   | Homo sapiens CDC417 antisense RNA 1 (head to head) (CDC417-AS1), long non-coding RNA [NR.108096]   |
| A.23.P372478   | 9.713  | 3.280 | 9.713  | SERPINA9     | Homo sapiens serpin peptidase inhibitor class A (alpha 1) (serpinA9), member 9 (SERPINA9), transcript variant 1, mRNA [NM.178729]                      |
| A.21.P0012465  | 9.689  | 3.278 | 9.689  | LINC01214    | Homo sapiens pyruvate dehydrogenase kinase, isozyme 4 (PKDK4), mRNA [NM.026121]  |
| A.24.P243749   | 9.677  | 3.275 | 9.677  | PKM4         | Homo sapiens uncharacterized LOC101928282 (LOC101928282), transcript variant 1, long non-coding RNA [NR.110186]  |
| A.21.P0001928  | 9.674  | 3.274 | 9.674  | LOC101928282 | Homo sapiens uncharacterized LOC101928282 (LOC101928282), transcript variant 2, long non-coding RNA [NR.110245]  |
| A.23.P393938   | 9.658  | 3.272 | 9.658  | NACAD        | Homo sapiens NAG alpha domain containing (NACAD), mRNA [NM.001148394]  |
| A.33.P388485   | 9.650  | 3.271 | 9.650  | BCO2         | Homo sapiens beta-carotene oxygenase 2 (BCO2), transcript variant 1, mRNA [NM.001938]  |
| A.23.P151544   | 9.644  | 3.270 | 9.644  | KRT18        | Homo sapiens keratin 18, type I (KRT18), transcript variant 1, mRNA [NM.002224]  |
| A.33.P320719   | 9.637  | 3.268 | 9.637  | CGRP205      | Homo sapiens chromosome 2 open reading frame 94 (CGRF9), transcript variant 2, mRNA [NM.024861]  |
| A.21.P0011933  | 9.614  | 3.265 | 9.614  | LINC01127    | PREDD1D, Homo sapiens uncharacterized LOC101928282 (LOC101928282), transcript variant 1, mRNA [NM.024267]  |
| A.23.P245763   | 9.613  | 3.265 | 9.613  | KIFC3        | Homo sapiens kinesin family member C3 (KIFC3), transcript variant 1, mRNA [NM.006550]  |
| A.21.P0004568  | 9.602  | 3.263 | 9.602  | LUCAT1       | Homo sapiens long cancer associated transcript 1 (non-protein coding) (LUCAT1), transcript variant 2, long non-coding RNA [NR.035246]                  |
| A.22.P00013804 | 9.583  | 3.260 | 9.583  | FRABD2B      | Homo sapiens Trab domain containing 2B (FRABD2B), mRNA [NM.00119486]   |
| A.23.P238692   | 9.577  | 3.260 | 9.577  | SUN3         | Homo sapiens SUN3 and LINC4 domain containing 3 (SUN3), transcript variant 1, mRNA [NM.001030019]  |
| A.33.P2386810  | 9.546  | 3.255 | 9.546  | LIMS3L       | Homo sapiens LIM and semescent cell antigen-like domains 3-like (LIMS3L), transcript variant 1, mRNA [NM.0020286]                                      |
| A.24.P312418   | 9.542  | 3.254 | 9.542  | CEL2L        | Homo sapiens chemokine (C-C motif) ligand 22 (CEL2L), mRNA [NM.0029360]  |
| A.23.P10718    | 9.518  | 3.251 | 9.518  | LAMA2        | Homo sapiens lamin, alpha 2 (LAMA2), transcript variant 1, mRNA [NM.004242]  |
| A.33.P275846   | 9.320  | 3.245 | 9.320  | up           | FPG RALSO (38/207) Formamidopyrimidine-DNA glycosylase (Fapy-DNA glycosylase) (DNA-gapurin or apyrimidin site) base mutM) (AP-lease mutM), partial (*) |
| A.22.P00010044 | 9.482  | 3.245 | 9.482  | EDN1         | Homo sapiens endothelin 1 (EDN1), transcript variant 1, mRNA [NM.0011955]  |
| A.23.P214821   | 9.470  | 3.243 | 9.470  | ANXA11       | Homo sapiens annexin A11 (ANXA11), transcript variant c, mRNA [NM.145889]  |
| A.23.P35399    | 9.462  | 3.242 | 9.462  | up           | long intergenic non-protein coding RNA 887 [Source:HGNC Symbol;Acc:HGNC:48574] [ENS100000458816]   |
| A.19.P00321648 | 9.453  | 3.241 | 9.453  | up           | U-acyltransferase like, pseudogene (Source:HGNC Symbol;Acc:HGNC:48367) [ENS100000471918]   |
| A.21.P0011449  | 9.437  | 3.238 | 9.437  | up           | LINC01428, lincRNA [inc-DENND3-1], lincRNA [inc-DENND3-1]  |
| A.21.P000574   | 9.418  | 3.238 | 9.418  | inc-DENND3-1 | Homo sapiens 5-methylubiquitinase 3 (COP7) (MUB3), transcript variant 1, mRNA [NM.026293]  |
| A.23.P257619   | 9.385  | 3.238 | 9.385  | up           | Homo sapiens octyl acyl receptor 3 (OAR3), mRNA [NM.001785]  |
| A.23.P24367    | 9.382  | 3.238 | 9.382  | COA1         | Homo sapiens octyl acyl receptor 3 (OAR3), mRNA [NM.001785]  |
| A.23.P11885    | 9.380  | 3.228 | 9.380  | CLCS3        | Homo sapiens chloride intracellular channel 5 (CLCS3), transcript variant 2, mRNA [NM.018929]  |
| A.33.P2318801  | 9.353  | 3.225 | 9.353  | ABL2         | Homo sapiens ABL proto-oncogene 2, non-receptor tyrosine kinase (ABL2), transcript variant 2, mRNA [NM.002314]   |
| A.24.P668761   | 9.347  | 3.220 | 9.347  | LEM1         | Homo sapiens LEM domain containing 1 (LEM1), transcript variant 3, mRNA [NM.001001552]   |
| A.23.P1083     | 9.319  | 3.219 | 9.319  | GU44         | Homo sapiens gap junction protein, alpha 4, 37kDa (GU44), mRNA [NM.0020260]  |
| A.23.P124417   | 9.314  | 3.219 | 9.314  | BU1B1        | Homo sapiens BUB1, mitotic checkpoint kinase/threonine kinase (BUB1), transcript variant 1, mRNA [NM.004336]   |
| A.23.P376449   | 9.309  | 3.219 | 9.309  | up           | cathepsin L, pseudogene 4 [Source:HGNC Symbol;Acc:HGNC:28845] [ENS100000454814]  |
| A.23.P416774   | 9.297  | 3.217 | 9.297  | CLCS5        | Homo sapiens chloride intracellular channel 5 (CLCS5), transcript variant 2, mRNA [NM.018929]  |
| A.19.P00318759 | 9.283  | 3.215 | 9.283  | AP-CCD1L-AS1 | Homo sapiens AP-CCD1L antisense RNA 1 (head to head) (AP-CCD1L-AS1), long non-coding RNA [NR.034147]   |
| A.33.P327087   | 9.276  | 3.214 | 9.276  | MTMR1        | myotubularin related protein 1 [Source:HGNC Symbol;Acc:HGNC:7449] [ENS10000030887]   |
| A.23.P18751    | 9.275  | 3.213 | 9.275  | up           | Homo sapiens transmembrane protease, serine 11E (TMPRSS11E), mRNA [NM.014658]  |
| A.22.P0009884  | 9.255  | 3.210 | 9.255  | up           | Homo sapiens uncharacterized LOC100988249 (LOC100988249), transcript variant 1, long non-coding RNA [NR.110159]  |
| A.21.P0005417  | 9.211  | 3.203 | 9.211  | up           | LINC01428, lincRNA [inc-NUPP2-1], lincRNA [inc-NUPP2-1]  |
| A.22.P0001119  | 9.192  | 3.198 | 9.192  | inc-NUPP2-1  | Homo sapiens thioredoxin reductase 1 (TXNRD1), transcript variant 6, mRNA [NM.001261446]   |
| A.33.P353120   | 9.177  | 3.198 | 9.177  | TRNO1        | Homo sapiens tyrosine-arginine-rich nuclear protein 1 (COP1), mRNA [NM.033927]   |
| A.23.P353120   | 9.169  | 3.199 | 9.169  | GRRP1        | Homo sapiens tyrosine-arginine-rich nuclear protein 1 (COP1), mRNA [NM.033927]   |
| A.23.P353120   | 9.169  | 3.199 | 9.169  | GRRP1        | Homo sapiens tyrosine-arginine-rich nuclear protein 1 (COP1), mRNA [NM.033927]   |
| A.22.P0022809  | 9.134  | 3.191 | 9.134  | GRRP1        | DNAH23P, D1MESZ, lincRNA [inc-DENND3-1], lincRNA [inc-DENND3-1]  |
| A.24.P46868    | 9.111  | 3.188 | 9.111  | SLC49A3      | Homo sapiens solute carrier family 43, member 3 (SLC49A3), transcript variant 3, mRNA [NM.198329]  |
| A.22.P0022260  | 9.107  | 3.187 | 9.107  | up           | Homo sapiens solute carrier family 43, member 3 (SLC49A3), transcript variant 3, mRNA [NM.198329]  |
| A.19.P00320162 | 9.079  | 3.183 | 9.079  | inc-DNT1P2-1 | Homo sapiens M1G7 (M1G7) mRNA, complete cds [DQ388207]   |
| A.33.P2386821  | 9.076  | 3.182 | 9.076  | CDRT1        | Homo sapiens CMT 4 duplicated region transcript 1 (CDRT1), transcript variant 1, mRNA [NM.006382]  |
| A.33.P238670   | 9.059  | 3.179 | 9.059  | MME          | Homo sapiens membrane metallo-endopeptidase (MME), transcript variant 2b, mRNA [NM.007293]   |
| A.21.P0013389  | 9.043  | 3.177 | 9.043  | UGC6         | Homo sapiens UDP-glucose ceramide glucosyltransferase (UGC6), mRNA [NM.003358]   |
| A.21.P0014201  | 9.040  | 3.176 | 9.040  | up           | Homo sapiens long intergenic non-protein coding RNA 113 (LINC00113), long non-coding RNA [NR.024357]   |
| A.21.P0010131  | 9.038  | 3.176 | 9.038  | LINC00113    | Homo sapiens long intergenic non-protein coding RNA 113 (LINC00113), long non-coding RNA [NR.024357]   |
| A.23.P68310    | 9.023  | 3.174 | 9.023  | CDRL2        | Homo sapiens chemokine (C-C motif) receptor-like 2 (CDRL2), transcript variant 1, mRNA [NM.003965]   |
| A.21.P0007813  | 9.014  | 3.172 | 9.014  | up           | long intergenic non-protein coding RNA 365 [Source:HGNC Symbol;Acc:HGNC:42687] [ENS100000415991]   |
| A.23.P145584   | 9.008  | 3.171 | 9.008  | UBE2H        | Homo sapiens ubiquitin-conjugating enzyme EPH (UBE2H), transcript variant 1, mRNA [NM.003344]  |
| A.23.P161439   | 9.004  | 3.170 | 9.004  | ADRF         | Homo sapiens adenosine regulatory factor (ADRF), mRNA [NM.008299]  |
| A.33.P670219   | 8.984  | 3.164 | 8.984  | ATGB3        | autophagy related 3B [Source:HGNC Symbol;Acc:HGNC:21899] [ENS100000471797]   |
| A.21.P0000163  | 8.983  | 3.164 | 8.983  | RNF231       | Homo sapiens ring finger protein 231 (RNF231), mRNA [NM.001202592]   |
| A.33.P358845   | 8.939  | 3.163 | 8.939  | up           | Homo sapiens cysteine and immunoglobulin domain containing 10 (V5IG10), mRNA [NM.001163922]  |
| A.21.P2605897  | 8.919  | 3.158 | 8.919  | inc-MGS12-1  | LINC01428, lincRNA [inc-MGS12-1], lincRNA [inc-MGS12-1]  |



|                |       |       |       |   |  |
|----------------|-------|-------|-------|---|--|
| A.23.246889    | 8.910 | 3.155 | 8.910 | SH3GL3  | Homo sapiens SH3-domain GRB2-like 3 (SH3GL3), transcript variant EEN-B2-L1, mRNA [NM 003027]   |
| A.23.239380    | 8.903 | 3.154 | 8.903 | KIAA1244  | Homo sapiens KIAA1244 (KIAA1244), mRNA [NM 020340]   |
| A.32.121698    | 8.901 | 3.154 | 8.901 | GPM1  | Homo sapiens G-protein signaling modulator 1 (GPM1), transcript variant 1, mRNA [NM 00146338]  |
| A.24.192572    | 8.883 | 3.151 | 8.883 | C1orf226  | Homo sapiens chromosome 1 open reading frame 226 (C1orf226), transcript variant 1, mRNA [NM 001139240]                                     |
| A.21.19014516  | 8.877 | 3.150 | 8.877 | LOC100507406                                    | Homo sapiens uncharacterized LOC100507406 (LOC100507406), transcript variant 1, long non-coding RNA [NR 121618]                            |
| A.33.23346837  | 8.869 | 3.149 | 8.869 | PCDH1   | Homo sapiens protocadherin 1 (PCDH1), transcript variant 1, mRNA [NM 002957]   |
| A.33.23311403  | 8.869 | 3.148 | 8.869 | MSR1  | Homo sapiens murine retrovirus integration site 1 homolog (MSR1), transcript variant 2, mRNA [NM 130395]                                   |
| A.33.2337273   | 8.851 | 3.146 | 8.851 | SIC15A1   | Homo sapiens solute carrier family 15 (galactoside transporter), member 1 (SIC15A1), mRNA [NM 005073]                                      |
| A.33.23359766  | 8.798 | 3.137 | 8.798 | C1orf48   | Homo sapiens chromosome 17 open reading frame 98 (C1orf48), mRNA [NM 00130677]   |
| A.33.232783    | 8.795 | 3.137 | 8.795 | SPC3  | Homo sapiens synuclein, gamma breast cancer-specific protein 1 (SPC3), mRNA [NM 003087]  |
| A.33.233372    | 8.779 | 3.134 | 8.779 | CDND  | Homo sapiens hemophilic 37 domain containing (CDND), transcript variant 1, mRNA [NM 002026]  |
| A.33.2328382   | 8.766 | 3.132 | 8.766 | EDN1  | Homo sapiens endothelin-1 (EDN1), transcript variant 1, mRNA [NM 00101295]   |
| A.22.200012331 | 8.763 | 3.131 | 8.763 | hnc-PRKAC2-2                                    | Homo sapiens cDNA FL395154, clone PMAEN00288 (AK098824)  |
| A.19.200318183 | 8.758 | 3.131 | 8.758 | LINC01197                                       | Homo sapiens long intergenic non-protein coding RNA 1197 (LINC01197), long non-coding RNA [NR 034096]                                      |
| A.22.200071970 | 8.734 | 3.127 | 8.734 | hnc-ZMA13-2                                     | G70D19 HUMAN (G70D19) Mafk3 protein (Fragment), partial (3x) [HG265288]  |
| A.23.2129178   | 8.725 | 3.125 | 8.725 | TAF9L3-2  | Homo sapiens thymol-5'-RNA synthetase-like 2 (TAF9L3-2), mRNA [NM 152334]  |
| A.33.23214870  | 8.703 | 3.122 | 8.703 | HK2   | Homo sapiens hexokinase 2 (HK2), mRNA [NM 000189]  |
| A.24.1981900   | 8.695 | 3.120 | 8.695 | SLC2A3  | Homo sapiens solute carrier family 2 (facilitated glucose transporter), member 3 (SLC2A3), mRNA [NM 008931]                                |
| A.21.19003892  | 8.690 | 3.119 | 8.690 | CDK1  | Homo sapiens cyclin-dependent kinase 1 (CDK1), transcript variant 1, mRNA [NM 001786]  |
| A.23.2198507   | 8.685 | 3.118 | 8.685 | up  |  |
| A.33.2334473   | 8.682 | 3.118 | 8.682 | ATRNL1  | Homo sapiens ataxin-like 1 (ATRNL1), transcript variant 1, mRNA [NM 207303]  |
| A.23.2151960   | 8.664 | 3.115 | 8.664 | HSD3B2  | Homo sapiens hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 2 (HSD3B2), transcript variant 1, mRNA [NM 000198] |
| A.32.2159651   | 8.661 | 3.115 | 8.661 | KAT7B   | Homo sapiens (Kytine) acetyltransferase 7B (KAT7B), mRNA [NM 003894]   |
| A.24.191327    | 8.661 | 3.115 | 8.661 | FLG   | Homo sapiens flagellin (FLG), mRNA [NM 002016]   |
| A.21.19010449  | 8.658 | 3.114 | 8.658 | LOC100506737                                    | PREDICTED: Homo sapiens uncharacterized LOC100506737 (LOC100506737), mRNA [XR 172888]  |
| A.33.2326897   | 8.647 | 3.112 | 8.647 | RUF14   | Homo sapiens RUN and FYVE domain containing 4 (RUF14), transcript variant 1, mRNA [NM 198483]  |
| A.33.2326897   | 8.629 | 3.108 | 8.629 | C1P11.9   | Homo sapiens connectin 11, ventral-specific-like 2 (C1P11.9), transcript variant 1, mRNA [NM 197472]                                       |
| A.33.2326897   | 8.623 | 3.108 | 8.623 | hnc-C1P11.8                                     | hnc-C1P11.8 (hnc-C1P11.8), transcript variant 1, mRNA [NM 197472]  |
| A.31.20002341  | 8.623 | 3.108 | 8.623 | hnc-C1P11.1                                     | hnc-C1P11.1 (hnc-C1P11.1), transcript variant 1, mRNA [NM 197472]  |
| A.19.200316409 | 8.620 | 3.103 | 8.620 | NEAT1   | Homo sapiens nuclear paraspeckle assembly transcript 1 (non-coding coding) (NEAT1), long non-coding RNA [NR 028272]                        |
| A.33.23232602  | 8.583 | 3.101 | 8.583 | IL24  | Homo sapiens interleukin 24 (IL24), transcript variant 3, mRNA [NM 001185166]  |
| A.24.238347    | 8.581 | 3.101 | 8.581 | DPYSL2  | Homo sapiens dpy-25/condensin-like 2 (DPYSL2), transcript variant 2, mRNA [NM 001388]  |
| A.33.2338897   | 8.579 | 3.101 | 8.579 | G4B4  | Homo sapiens gap junction protein, beta 4, 30.3kDa (G4B4), mRNA [NM 153212]  |
| A.24.2168574   | 8.576 | 3.100 | 8.576 | GNAS  | GNAS complex locus [Source:HGNC Symbol;Acc:HGNC:4392] [ENST00000481768]  |
| A.23.2503127   | 8.569 | 3.099 | 8.569 | 3-5up   | Homo sapiens suppressor of apoptosis domain containing 1 (SAPCD1), mRNA [NM 001038851]   |
| A.24.218264    | 8.565 | 3.098 | 8.565 | MUC1L   | Homo sapiens mucin-like 1 (MUC1L), mRNA [NM 058173]  |
| A.23.2169719   | 8.552 | 3.096 | 8.552 | hnc-NDPFI-3                                     | Homo sapiens cDNA FL298033, clone ANSE00222 (AK024566)   |
| A.22.2000104   | 8.550 | 3.095 | 8.550 | hnc-NDPFI-3                                     | Homo sapiens transgelin (TAGLN), transcript variant 1, mRNA [NM 001001522]   |
| A.23.2187011   | 8.547 | 3.095 | 8.547 | TAGLN   | Homo sapiens transgelin (TAGLN), transcript variant 1, mRNA [NM 001001522]   |
| A.23.2170397   | 8.544 | 3.095 | 8.544 | SNO2  | Homo sapiens SPARC-related modular calcium binding 2 (SNO2), transcript variant 1, mRNA [NM 0004433]                                       |
| A.23.2104188   | 8.542 | 3.095 | 8.542 | ELF3  | Homo sapiens E74-like factor 3 (ets domain transcription factor, epithelium-specific) (ELF3), transcript variant 1, mRNA [NM 004742]       |
| A.33.2336935   | 8.519 | 3.091 | 8.519 | MAG1  | Homo sapiens myristic acid-associated guanylate kinase, WW and PDZ domain containing 1 (MAG1), transcript variant 1, mRNA [NM 001514]      |
| A.33.2323026   | 8.517 | 3.090 | 8.517 | MRP4  | Homo sapiens multidrug resistance-associated protein 4 (MRP4), transcript variant 1, mRNA [NM 001001524]                                   |
| A.33.2327878   | 8.514 | 3.088 | 8.514 | C13orf78  | Homo sapiens chromosome 13 open reading frame 78 (C13orf78), transcript variant 1, mRNA [NM 001198444]                                     |
| A.33.2327878   | 8.513 | 3.088 | 8.513 | STY192B   | Homo sapiens chromosome 13 open reading frame 192B (STY192B), transcript variant 1, mRNA [NM 001198444]                                    |
| A.21.1901442   | 8.506 | 3.088 | 8.506 | STPPL1  | Homo sapiens serine protease inhibitor 1 (STPPL1), transcript variant 1, mRNA [NM 001198444]   |
| A.32.2118300   | 8.481 | 3.084 | 8.481 | ITGA2   | Homo sapiens integrin, alpha 2 (CD49), alpha 2, subunit of VLA-2 receptor (ITGA2), transcript variant 1, mRNA [NM 002203]                  |
| A.23.2153400   | 8.467 | 3.082 | 8.467 | KLK5  | Homo sapiens kallikrein-related peptidase 5 (KLK5), transcript variant 1, mRNA [NM 012427]   |
| A.23.2257111   | 8.452 | 3.079 | 8.452 | FEPI  | Homo sapiens fructose-1,6-bisphosphatase 1 (FEPI), transcript variant 1, mRNA [NM 009507]  |
| A.33.2332384   | 8.452 | 3.079 | 8.452 | TMEI23  | Homo sapiens transmembrane protein 231 (TMEI23), transcript variant 1, mRNA [NM 001077416]   |
| A.33.23319185  | 8.444 | 3.078 | 8.444 | CRYAB   | Homo sapiens crystallin, alpha B (CRYAB), transcript variant 1, mRNA [NM 0011885]  |
| A.24.2206776   | 8.435 | 3.078 | 8.435 | MIR4435-1HG                                     | Homo sapiens MIR4435-1 host gene (non-protein coding) (MIR4435-1HG), transcript variant 2, long non-coding RNA [NR 024373]                 |
| A.21.19012079  | 8.413 | 3.073 | 8.413 | TAGLN   | Homo sapiens transgelin (TAGLN), transcript variant 1, mRNA [NM 001001522]   |
| A.23.2187013   | 8.410 | 3.072 | 8.410 | ANKRD19A  | Homo sapiens ankyrin repeat domain 19A (ANKRD19A), mRNA [NM 031121]  |
| A.24.2307572   | 8.408 | 3.071 | 8.408 | MUC16   | Homo sapiens mucin 16, cell surface associated (MUC16), mRNA [NM 024680]   |
| A.23.215211    | 8.400 | 3.070 | 8.400 | AIF1L   | Homo sapiens allograft inflammatory factor 1-like (AIF1L), transcript variant 4, mRNA [NM 001185096]                                       |
| A.33.23260026  | 8.397 | 3.070 | 8.397 | VASN  | Homo sapiens vasonin (VASN), mRNA [NM 138440]  |
| A.23.2129695   | 8.397 | 3.070 | 8.397 | hnc-AG2121821-2                                 | LINC021821 (hnc-AG2121821-2), lincRNA [hnc-AG2121821-2-1]  |
| A.21.19005587  | 8.380 | 3.067 | 8.380 | IT6   | Homo sapiens involutin (IT6), mRNA [NM 009547]   |
| A.23.2363254   | 8.378 | 3.067 | 8.378 | EBF3  | Homo sapiens E2f-1 binding factor 3 (EBF3), mRNA [NM 009159]   |
| A.23.2151960   | 8.375 | 3.066 | 8.375 | USP4  | Homo sapiens ubiquitin-specific protease 4 (USP4), mRNA [NM 001001522]   |
| A.21.1901442   | 8.333 | 3.059 | 8.333 | hnc-MYNN-1                                      | hnc-MYNN-1 (hnc-MYNN-1), transcript variant 1, mRNA [NM 001001522]   |
| A.33.23260180  | 8.327 | 3.058 | 8.327 | IT24  | Homo sapiens intercalin 24 (IT24), transcript variant 3, mRNA [NM 001185166]   |
| A.21.2000701   | 8.316 | 3.056 | 8.316 | HMGAI17   | Homo sapiens high mobility group A17-like 1, esophageal 2 (HMGAI17), non-coding RNA [NR 037838]  |
| A.24.243723    | 8.304 | 3.054 | 8.304 | GUC3  | Homo sapiens gap junction protein, alpha 3, 30.2kDa (GUC3), mRNA [NM 181538]   |
| A.33.2337679   | 8.298 | 3.053 | 8.298 | GNST  | Homo sapiens gonatrin, cohesin sorting protein (GNST), transcript variant 2, mRNA [NM 001139459]   |
| A.22.20005174  | 8.284 | 3.050 | 8.284 | LINC01501                                       | Homo sapiens long intergenic non-protein coding RNA 1501 (LINC01501), long non-coding RNA [NR 034157]                                      |
| A.21.19006955  | 8.262 | 3.046 | 8.262 | hnc-ARRC2-3                                     | LINC021821 (hnc-ARRC2-3), lincRNA [hnc-ARRC2-3-2]  |
| A.24.21260101  | 8.261 | 3.046 | 8.261 | MME   | Homo sapiens membrane metallo-endopeptidase (MME), transcript variant 2b, mRNA [NM 007293]   |
| A.21.19013347  | 8.258 | 3.046 | 8.258 | up  |  |
| A.33.23286162  | 8.255 | 3.045 | 8.255 | PP4FD   | Homo sapiens peroxisome proliferator-activated receptor delta (PP4FD), transcript variant 1, mRNA [NM 008238]                              |
| A.24.2252150   | 8.255 | 3.045 | 8.255 | FLJ37154  | Homo sapiens cDNA FLJ37154, clone PACE000070 (AK056716)  |
| A.33.2384651   | 8.245 | 3.043 | 8.245 | AFF1  | Homo sapiens AF4/FLM22 family, member 1 (AFF1), transcript variant 2, mRNA [NM 005935]   |
| A.33.2324273   | 8.239 | 3.042 | 8.239 | C2orf48   | Homo sapiens chromosome 2 open reading frame 48 (C2orf48), mRNA [NM 182626]  |
| A.21.20002005  | 8.224 | 3.040 | 8.224 | C2orf46   | Homo sapiens chromosome 2 open reading frame 46 (C2orf46), mRNA [NM 182626]  |
| A.23.2126442   | 8.216 | 3.038 | 8.216 | C2orf46   | Homo sapiens chromosome 2 open reading frame 46 (C2orf46), mRNA [NM 182626]  |
| A.33.23638     | 8.213 | 3.038 | 8.213 | hnc-ARRC1-1                                     | Homo sapiens chromosome 1 non-coding RNA containing 1 (hnc-ARRC1-1), transcript variant 1, mRNA [NM 148912]                                |
| A.21.19004607  | 8.200 | 3.038 | 8.200 | LINC021821 (hnc-ARRC1-1), lincRNA [hnc-ARRC1-1] |  |

|                 |                     |      |       |  |
|-----------------|---------------------|------|-------|--|
| A.21_P0006037   | LOC10274168         | 8198 | 3.035 | PREDICTED: Homo sapiens uncharacterized LOC10274168 (LOC10274168). mRNA [XR 426096]  |
| A.33_P238476    | LOC100128697        | 8198 | 3.035 | Homo sapiens cDNA FL24049.1b. clone SPL EN204.170. [AK124043]  |
| A.33_P238476    | ISPD                | 8198 | 3.035 | Homo sapiens isoprenoid synthase domain containing (ISPD). transcript variant 1. mRNA [NM 001101426]                             |
| A.33_P238476    | OSMR                | 8181 | 3.032 | OSMR antisense RNA 1 (head to head) [Source:HGNC Symbol;Acc:HGNC:59299] [ENST00000512819]  |
| A.22_P00003459  | DKFZ43460J22_r1.434 | 8170 | 3.027 | DKFZ43460J22_r1.434 (synonym: hsa3) Homo sapiens cDNA clone DKF44340P122.5. mRNA sequence [AJ043023]                             |
| A.33_P238217    | TMPP2               | 8150 | 3.027 | Homo sapiens TMPP2 metalloproteinase inhibitor 2 (TMPP2). mRNA [NM 009295]   |
| A.21_P0006847   | linc-C10orf128-2    | 8147 | 3.026 | linc-C10orf128-2. lincRNA [linc-C10orf128-2]   |
| A.23_P214681    | PPARD               | 8144 | 3.026 | Homo sapiens peroxisome proliferator-activated receptor delta (PPARD). transcript variant 1. mRNA [NM 006238]                    |
| A.33_P25206     | CLNM                | 8139 | 3.025 | Homo sapiens calinin (Gabinon-like, transmembrane) (CLNM). mRNA [NM 024754]  |
| A.23_P25206     | FAM221A             | 8139 | 3.025 | Homo sapiens family with sequence similarity 221, member A (FAM221A). transcript variant 2. mRNA [NM 001127364]                  |
| A.33_P25206     | IFP                 | 8138 | 3.024 | Homo sapiens interdigitin-related protein 1 (IFP). mRNA [NM 002085]  |
| A.19_P00012475  | linc-S100A1-2       | 8129 | 3.022 | linc-S100A1-2. lincRNA [linc-S100A1-2]   |
| A.19_P00012475  | LOC101927668        | 8129 | 3.022 | LOC101927668 (LOC101927668). long non-coding RNA [NR 110141]   |
| A.22_P00003838  | LINC00764           | 8128 | 3.023 | Homo sapiens long intergenic non-protein coding RNA 764 (LINC00764). long non-coding RNA [NR 024476]                             |
| A.23_P238212    | ABHD11              | 8128 | 3.023 | Homo sapiens hydrolyase domain containing 11 (ABHD11). transcript variant 8. mRNA [NM 0154886]                                   |
| A.23_P22647     | FAM155B             | 8097 | 3.017 | Homo sapiens family with sequence similarity 155, member B (FAM155B). mRNA [NM 015515]   |
| A.23_P27248     | KRT73               | 8096 | 3.017 | Homo sapiens keratin 73, type I (KRT73). transcript variant 1. mRNA [NM 014470]  |
| A.22_P00009494  | RND1                | 8076 | 3.014 | EST12632: Fetal heart H. Homo sapiens cDNA 5' end. mRNA sequence [AA348474]  |
| A.22_P000015416 | linc-MAGI1-2        | 8071 | 3.013 | long intergenic non-protein coding RNA 973 (Source:HGNC Symbol;Acc:HGNC:48888) [ENST00000472756]                                 |
| A.22_P000018594 | linc-MAGI1-1        | 8039 | 3.007 | linc-MAGI1-1. lincRNA [linc-MAGI1-1]   |
| A.21_P0015416   | linc-MAGI1-1        | 8022 | 3.004 | AB571490.pKALU5.AB371.460 [linc-MAGI1-1]   |
| A.22_P0000307   | linc-THBS3-1        | 8015 | 3.003 | linc-THBS3-1. lincRNA [linc-THBS3-1]   |
| A.22_P00016892  | linc-THBS3-1        | 8002 | 3.000 | linc-THBS3-1. lincRNA [linc-THBS3-1]   |
| A.23_P217133    | SPRY4               | 7976 | 2.996 | Homo sapiens sprouty homolog 4 (Spry4) (SPRY4). transcript variant 1. mRNA [NM 030966]   |
| A.24_P249002    | THBS3B              | 7957 | 2.994 | Homo sapiens thrombospondin 4 type 1, class B (THBS3B). transcript variant 1. mRNA [NM 138643]                                   |
| A.23_P212446    | THBS3B              | 7953 | 2.991 | Homo sapiens thrombospondin 4 type 1, class B (THBS3B). transcript variant 1. mRNA [NM 138643]                                   |
| A.33_P250660    | THBS3               | 7950 | 2.990 | Homo sapiens thrombospondin 4 type 1, class B (THBS3). transcript variant 1. mRNA [NM 138643]                                    |
| A.33_P250660    | THBS3               | 7950 | 2.990 | Homo sapiens thrombospondin 4 type 1, class B (THBS3). transcript variant 1. mRNA [NM 138643]                                    |
| A.33_P23270172  | LINC00628           | 7938 | 2.987 | Homo sapiens long intergenic non-protein coding RNA 628 (LINC00628). mRNA [NM 024022]  |
| A.22_P00013221  | NEAT1               | 7913 | 2.984 | CR23705: Soverex mat. H. Homo sapiens cDNA clone IMAG91D10116. IMAG91.52.43.15. mRNA sequence [CR23705]                          |
| A.22_P0001342   | GN11                | 7911 | 2.984 | Homo sapiens nuclear transposon assembly transcript 1 (non-retro coding) (NEAT1). long non-coding RNA [NR 028272]                |
| A.23_P23223     | GN11                | 7888 | 2.982 | Homo sapiens calpainin 1, basic, smooth muscle, GN11. mRNA [NM 001239]   |
| A.23_P289665    | KRT33B              | 7896 | 2.981 | Homo sapiens keratin 33B, type I (KRT33B). mRNA [NM 002279]  |
| A.33_P2306802   | LOC100130916        | 7892 | 2.980 | Homo sapiens cDNA DNA11832.HSAL3836 (UNG9536). mRNA, complete cds. [AY358791]  |
| A.21_P0014655   | LOC101-AS1          | 7882 | 2.979 | Homo sapiens LOC101-AS1 antisense RNA 1 (LOC101-AS1). long non-coding RNA [NR 009861]  |
| A.22_P236045    | ARI-GAP30           | 7870 | 2.976 | Homo sapiens Rho GTPase activating protein 30 (ARI-GAP30). transcript variant 1. mRNA [NM 0125598]                               |
| A.22_P00018986  | RST4912             | 7864 | 2.975 | RST4912: Atherys PAGE Library. Homo sapiens cDNA, mRNA sequence [B6189587]   |
| A.23_P49448     | FA2H                | 7846 | 2.972 | Homo sapiens fatty acid 2-hydroxylase (FA2H). mRNA [NM 024306]   |
| A.33_P436114    | DNAJ8               | 7843 | 2.971 | Homo sapiens DNAJ (Hsp40) homolog, subfamily G, member 6 (DNAJ8). transcript variant 1. mRNA [NM 001258864]                      |
| A.21_P0012373   | LOC101926015        | 7837 | 2.970 | PREDICTED: Homo sapiens uncharacterized LOC101926015 (AC116035.1). transcript variant X2. mRNA [XR 245199]                       |
| A.22_P00001710  | linc-NFY1-1         | 7825 | 2.968 | linc-NFY1-1. lincRNA [linc-NFY1-1]   |
| A.21_P0001572   | linc-MSH3-2         | 7801 | 2.964 | linc-MSH3-2. lincRNA [linc-MSH3-2]   |
| A.21_P0013217   | ALC12               | 7795 | 2.963 | BRAD Institute. lincRNA XLOC-013446. lincRNA [XLOC-013446]   |
| A.23_P436114    | LOC101-AS1          | 7781 | 2.962 | Homo sapiens LOC101-AS1 antisense RNA 1 (LOC101-AS1). long non-coding RNA [NR 009861]  |
| A.23_P436114    | LOC101-AS1          | 7781 | 2.962 | Homo sapiens LOC101-AS1 antisense RNA 1 (LOC101-AS1). long non-coding RNA [NR 009861]  |
| A.24_P231278    | ISPD                | 7738 | 2.962 | Homo sapiens isoprenoid synthase domain containing (ISPD). transcript variant 1. mRNA [NM 001101426]                             |
| A.21_P0010482   | NR2F1-AS1           | 7720 | 2.948 | Homo sapiens NR2F1 antisense RNA 1 (NR2F1-AS1). transcript variant 1. long non-coding RNA [NR 08923]                             |
| A.22_P00010470  | XIST                | 7713 | 2.947 | Homo sapiens X inactive specific transcript (non-protein coding) (XIST). long non-coding RNA [NR 001564]                         |
| A.22_P00010470  | BAGAL14             | 7708 | 2.946 | Homo sapiens X inactive specific transcript (non-protein coding) (XIST). long non-coding RNA [NR 001564]                         |
| A.32_P103845    | BAGAL14             | 7703 | 2.945 | Homo sapiens LDP-Galbra1/Galbra1 beta 1-4-galactosyltransferase, polypeptide 4 (BAGAL14). transcript variant 1. mRNA [NM 212543] |
| A.23_P103845    | AQP9                | 7700 | 2.945 | Homo sapiens aquaporin 9 (AQP9). mRNA [NM 020980]  |
| A.19_P00317963  | linc-PERP-3         | 7694 | 2.944 | linc-PERP-3. lincRNA [linc-PERP-3]   |
| A.32_P103811    | DIAH3               | 7690 | 2.943 | Homo sapiens diaphanous-related form 3 (DIAH3). transcript variant 1. mRNA [NM 004609]   |
| A.23_P107981    | SUL12B1             | 7688 | 2.942 | Homo sapiens sulfotransferase family, cytosolic, 2B, member 1 (SUL12B1). transcript variant 1. mRNA [NM 0042517]                 |
| A.23_P101992    | MARCO               | 7682 | 2.942 | Homo sapiens macrophage receptor with collagenous structure (MARCO). mRNA [NM 006770]  |
| A.32_P104000    | DCUNID3             | 7681 | 2.941 | Homo sapiens DCN1, defective in cullin neddylation 1, domain containing 3 (DCUNID3). mRNA [NM 173475]                            |
| A.33_P3353996   | PPP1R36             | 7680 | 2.941 | Homo sapiens protein phosphatase 1, regulatory subunit 36 (PPP1R36). mRNA [NM 00145119]  |
| A.32_P107097    | linc-MJJD7-PU2G4B-1 | 7665 | 2.938 | Homo sapiens cDNA FL39983.1b. clone TRACH2000947. [AK657629]   |
| A.33_P10680     | PHB3                | 7663 | 2.938 | Homo sapiens protein-tyrosine phosphatase subfamily 3 (PHB3). mRNA [NM 006249]   |
| A.21_P0010254   | linc-DMODL1-1       | 7661 | 2.938 | linc-DMODL1-1. lincRNA [linc-DMODL1-1]   |
| A.33_P2357097   | LOC10192741         | 7647 | 2.938 | Homo sapiens SRY-like determining region 17, box 8 (LOC10192741). mRNA [NM 003346]   |
| A.22_P0001157   | linc-AMOTL2-2       | 7646 | 2.935 | linc-AMOTL2-2. lincRNA [linc-AMOTL2-2]   |
| A.23_P4161769   | FXO2                | 7644 | 2.934 | Homo sapiens FXO2 domain containing box transcript candidate 2 (FXO2). transcript variant b. mRNA [NM 024803]                    |
| A.33_P2381186   | SLC5A8              | 7636 | 2.933 | Homo sapiens solute carrier family 5 (sodium/motoneurotoxin cotransporter), member 8 (SLC5A8). mRNA [NM 145913]                  |
| A.21_P0012150   | APCD1L-AS1          | 7630 | 2.932 | Homo sapiens APCDD1L antisense RNA 1 (head to head) (APCD1L-AS1). long non-coding RNA [NR 034147]                                |
| A.23_P147805    | LUPP1               | 7603 | 2.927 | Homo sapiens uridine phosphorylase 1 (LUPP1). transcript variant 4. mRNA [NM 001287428]  |
| A.32_P205657    | PARD8B              | 7592 | 2.925 | Homo sapiens par-6 family cell polarity regulator beta (PARD8B). mRNA [NM 0232921]   |
| A.23_P15248     | MPRP                | 7584 | 2.923 | Homo sapiens myelin phosphatase Rho interacting protein (MPRP). transcript variant 1. mRNA [NM 015134]                           |
| A.19_P00320986  | LINC00152           | 7562 | 2.919 | Homo sapiens long intergenic non-protein coding RNA 152 (LINC00152). transcript variant 1. long non-coding RNA [NR 024204]       |
| A.19_P00320986  | LINC00152           | 7562 | 2.917 | microRNA 29b-1 [Source:HGNC Symbol;Acc:HGNC:31619] [ENST00000418546]   |
| A.23_P25676     | CATSPERI            | 7547 | 2.916 | Homo sapiens catenin channel, sperm associated 1 (CATSPERI). mRNA [NM 059094]  |
| A.33_P338283    | CASP10              | 7536 | 2.914 | Homo sapiens caspase 10, apoptosis-related cysteine protease (CASP10). transcript variant 1. mRNA [NM 032977]                    |
| A.22_P00029811  | linc-C9orf42-3      | 7533 | 2.913 | linc-C9orf42-3. lincRNA [linc-C9orf42-3]   |
| A.23_P168823    | TNNS1               | 7520 | 2.911 | Homo sapiens tropomyosin C type 1 (slow) (TNNS1). mRNA [NM 002980]   |
| A.33_P222632    | F3                  | 7517 | 2.910 | Homo sapiens coagulation factor III (thromboplastin, tissue factor) (F3). transcript variant 1. mRNA [NM 001933]                 |
| A.22_P0000685   | GPRT                | 7507 | 2.908 | Homo sapiens guanosine phosphoribosyltransferase (GPRT). mRNA [NM 014288]  |
| A.22_P0000685   | GPRT                | 7489 | 2.907 | Homo sapiens guanosine phosphoribosyltransferase (GPRT). mRNA [NM 014288]  |
| A.22_P0000685   | GPRT                | 7484 | 2.904 | Homo sapiens guanosine phosphoribosyltransferase (GPRT). mRNA [NM 014288]  |

|                |      |       |      |                |  |
|----------------|------|-------|------|----------------|--|
| A_33_P2246229  | 7479 | 2.002 | 7479 | IL1RN          | Homo sapiens interleukin 1 receptor antagonist 1 (IL1RN), transcript variant 4, mRNA [NM_178443]   |
| A_33_P2261928  | 7476 | 2.002 | 7476 | FLG            | Homo sapiens flaggrin (FLG), mRNA [NM_002016]  |
| A_21_P0003841  | 7465 | 2.000 | 7465 | LUCAT1         | linc cancer associated transcript 1 (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:48498] [ENS:00000613828]                             |
| A_24_P141432   | 7464 | 2.000 | 7464 | AFF1           | Homo sapiens AFF1, FMR2 family, member 1 (AFF1), transcript variant 2, mRNA [NM_009593]  |
| A_23_P27571    | 7463 | 2.000 | 7463 | MIML1          | Homo sapiens melanoma associated antigen (miml1)-like 1 (MIML1), transcript variant 1, mRNA [NM_192423]                                    |
| A_23_P232404   | 7439 | 2.005 | 7439 | ISG20          | Homo sapiens interferon stimulated exonuclease gene 20-like (ISG20), transcript variant 1, mRNA [NM_002201]                                |
| A_33_P3330549  | 7436 | 2.005 | 7436 | SLC44A2        | Homo sapiens solute carrier family 44 (chloride transporter), member 2 (SLC44A2), transcript variant 1, mRNA [NM_020428]                   |
| A_33_P3322945  | 7436 | 2.004 | 7436 | SPDYC          | Homo sapiens spdy/RYNGO cell cycle regulator family member C (SPDYC), mRNA [NM_001008778]  |
| A_33_P51044    | 7422 | 2.009 | 7422 | PKR3           | Homo sapiens polo-like kinase 3 (PKR3), mRNA [NM_004073]   |
| A_33_P321374   | 7414 | 2.004 | 7414 | GTE2E          | Homo sapiens Gtp-2300-interacting translocator with Gtp-48p-60 catalytic-terminal domain 2 (GTE2E), transcript variant 1, mRNA [NM_008079] |
| A_33_P320384   | 7386 | 2.008 | 7386 | PREDICTED      | Homo sapiens uncharacterized LOC102725109 (LOC102725109), mRNA [XR_631976]   |
| A_33_P320383   | 7386 | 2.008 | 7386 | PREDICTED      | Homo sapiens uncharacterized LOC102725109 (LOC102725109), mRNA [XR_631976]   |
| A_31_P0005854  | 7371 | 2.002 | 7371 | linc-RNF192-3  | linc-RNF192-3  |
| A_22_P0001471  | 7354 | 2.036 | 7354 | LOC100961923   | LOC100961923   |
| A_33_P3331884  | 7352 | 2.038 | 7352 | LOCH1          | Homo sapiens trichostatin A (LOCH1), mRNA [NM_007113]  |
| A_21_P0010814  | 7351 | 2.078 | 7351 | XLOC_02_000910 | BROAD Institute lincRNA XLOC_02_000910, lincRNA [TCOONS_02_00001232]   |
| A_33_P2708413  | 7310 | 2.070 | 7310 | MFAP5          | Homo sapiens microfibrillar associated protein 5 (MFAP5), transcript variant 1, mRNA [NM_003480]   |
| A_21_P0013887  | 7298 | 2.067 | 7298 | MFAP5          | Homo sapiens microfibrillar associated protein 5 (MFAP5), transcript variant 1, mRNA [NM_003480]   |
| A_33_P3303302  | 7291 | 2.066 | 7291 | MFAP5          | Homo sapiens microfibrillar associated protein 5 (MFAP5), transcript variant 1, mRNA [NM_003480]   |
| A_24_P86783    | 7287 | 2.065 | 7287 | IL3RRA         | Homo sapiens interleukin 3 receptor antagonist 1 (IL3RRA), transcript variant 1, mRNA [NM_012275]  |
| A_22_P00005298 | 7274 | 2.063 | 7274 | IL3RRA         | Homo sapiens interleukin 3 receptor antagonist 1 (IL3RRA), transcript variant 1, mRNA [NM_012275]  |
| A_33_P204647   | 7273 | 2.063 | 7273 | LOPI1          | Homo sapiens lymphocyte cytosolic protein 1 (Lymphocytic cytosolic protein 1) (LOPI1), mRNA [NM_002298]                                    |
| A_21_P0004730  | 7254 | 2.059 | 7254 | linc-FAM105B-2 | linc-FAM105B-2   |
| A_23_P83579    | 7247 | 2.057 | 7247 | ARN2           | Homo sapiens aryl-hydrocarbon receptor nuclear translocator 2 (ARN2), mRNA [NM_014862]   |
| A_21_P0001418  | 7224 | 2.053 | 7224 | linc-ATF3-1    | linc-ATF3-1  |
| A_33_P3300654  | 7224 | 2.053 | 7224 | linc-ATF3-1    | linc-ATF3-1  |
| A_24_P383523   | 7218 | 2.052 | 7218 | SMAD9          | Homo sapiens long intragenic non-protein coding RNA 897 (LINC008087), long non-coding RNA [NR_024480]                                      |
| A_21_P3210889  | 7217 | 2.050 | 7217 | SMAD9          | Homo sapiens alpha helix motif domain containing 3A (SMAD9A), transcript variant 1, mRNA [NM_015989]                                       |
| A_21_P3210888  | 7216 | 2.049 | 7216 | SMAD9          | Homo sapiens alpha helix motif domain containing 3A (SMAD9A), transcript variant 1, mRNA [NM_015989]                                       |
| A_23_P420551   | 7198 | 2.047 | 7198 | CDT1           | Homo sapiens P4 domain containing 1, with Zfp domain, P4 (CDT1), transcript variant 2, mRNA [NM_007124]                                    |
| A_23_P420551   | 7198 | 2.047 | 7198 | CDT1           | Homo sapiens P4 domain containing 1, with Zfp domain, P4 (CDT1), transcript variant 1, mRNA [NM_007124]                                    |
| A_21_P0001326  | 7192 | 2.046 | 7192 | SLC37A2        | Homo sapiens solute carrier family 37 (dicarboxylate transporter), member 2 (SLC37A2), transcript variant 1, mRNA [NM_198277]              |
| A_33_P3434319  | 7149 | 2.038 | 7149 | SLC44A2        | Homo sapiens solute carrier family 44 (chloride transporter), member 2 (SLC44A2), transcript variant 1, mRNA [NM_020428]                   |
| A_24_P10857    | 7131 | 2.034 | 7131 | FNFR1          | Homo sapiens interferon, lambda receptor 1 (FNFR1), transcript variant 3, mRNA [NM_173065]   |
| A_24_P19877    | 7128 | 2.034 | 7128 | FNFR1          | Homo sapiens interferon, lambda receptor 1 (FNFR1), transcript variant 3, mRNA [NM_173065]   |
| A_24_P497484   | 7124 | 2.033 | 7124 | SOX9-AS1       | Homo sapiens SOX9 antisense RNA 1 (SOX9-AS1), transcript variant 1, long non-coding RNA [NR_103738]  |
| A_33_P2858515  | 7119 | 2.032 | 7119 | WAP4           | WAP four-disulfide core domain 4 [Source:HGNC Symbol;Acc:HGNC:16164] [ENS:00000674865]   |
| A_24_P238354   | 7119 | 2.032 | 7119 | FOLR2          | Homo sapiens folate receptor 2 (FOLR2), transcript variant 1, mRNA [NM_008037]   |
| A_23_P253524   | 7114 | 2.031 | 7114 | CENPE          | Homo sapiens centromere protein E 3 (CENPE), transcript variant 1, mRNA [NM_001813]  |
| A_21_P0005138  | 7112 | 2.030 | 7112 | LOC100807417   | LOC100807417   |
| A_23_P398854   | 7100 | 2.028 | 7100 | DOCK7          | Homo sapiens uncharacterized LOC100507477 (LOC100507477), transcript variant 1, mRNA [NM_173660]   |
| A_23_P75529    | 7092 | 2.028 | 7092 | PKNOX2         | Homo sapiens peck knockout 2 (PKNOX2), mRNA [NM_029062]  |
| A_21_P0010778  | 7089 | 2.028 | 7089 | XLOC_02_001134 | BROAD Institute lincRNA XLOC_02_001134, lincRNA [TCOONS_02_00001953]   |
| A_22_P00014908 | 7087 | 2.025 | 7087 | SOX9-AS1       | Homo sapiens SOX9 antisense RNA 1 (SOX9-AS1), transcript variant 1, long non-coding RNA [NR_103738]  |
| A_22_P207787   | 7085 | 2.025 | 7085 | SOX9-AS1       | Homo sapiens SOX9 antisense RNA 1 (SOX9-AS1), transcript variant 1, long non-coding RNA [NR_103738]  |
| A_33_P320383   | 7074 | 2.023 | 7074 | LOC102725109   | Homo sapiens zinc finger protein 383 (ZFP383), transcript variant B, mRNA [NM_194860]  |
| A_33_P320383   | 7074 | 2.023 | 7074 | LOC102725109   | Homo sapiens zinc finger protein 383 (ZFP383), transcript variant B, mRNA [NM_194860]  |
| A_19_P00122440 | 7055 | 2.019 | 7055 | LOC102725109   | Homo sapiens zinc finger protein 383 (ZFP383), transcript variant B, mRNA [NM_194860]  |
| A_33_P3333766  | 7048 | 2.017 | 7048 | LOC440028      | Homo sapiens uncharacterized LOC440028 (LOC440028), long non-coding RNA [NR_033072]  |
| A_33_P3323744  | 7048 | 2.017 | 7048 | RHBG           | Homo sapiens Rb family B subunit (Rb protein) (RHBG), transcript variant 2, mRNA [NM_001246393]  |
| A_22_P00015532 | 7011 | 2.010 | 7011 | linc-STK24-1   | linc-STK24-1   |
| A_24_P864183   | 7008 | 2.009 | 7008 | SLC44A4        | Homo sapiens solute carrier family 44, member 4 (SLC44A4), transcript variant 1, mRNA [NM_029267]  |
| A_23_P254507   | 6984 | 2.004 | 6984 | HOPX           | Homo sapiens HOP homeobox (HOPX), transcript variant 2, mRNA [NM_139211]   |
| A_23_P216108   | 6972 | 2.002 | 6972 | ANK1           | Homo sapiens ankyrin 1, erythrocytic (ANK1), transcript variant 3, mRNA [NM_000037]  |
| A_21_P0002222  | 6970 | 2.001 | 6970 | linc-VRK2-1    | linc-VRK2-1  |
| A_33_P3379571  | 6962 | 2.000 | 6962 | MAP3K9         | Homo sapiens mitogen-activated protein kinase kinase kinase 9 (MAP3K9), transcript variant 1, mRNA [NM_031341]                             |
| A_33_P3362918  | 6961 | 2.000 | 6961 | KNG1           | PREDICTED: Homo sapiens potassium voltage-gated channel, subfamily G, member 1 (KNG1), transcript variant X2, mRNA [NM_008720786]          |
| A_24_P307869   | 6961 | 2.000 | 6961 | LLGL2          | Homo sapiens lethal giant larvae homolog 2 (Drosophila) (LLGL2), transcript variant 2, mRNA [NM_010150002]                                 |
| A_33_P3360855  | 6961 | 2.000 | 6961 | LOZ2           | Homo sapiens leucine-rich repeat LOZ family, member 2 (LOZ2), mRNA [NM_018176]   |
| A_33_P3226357  | 6955 | 2.000 | 6955 | LOC101928204   | DBS6001 TEST12: Homo sapiens cDNA clone TEST1207484.9, mRNA sequence [DB56001]   |
| A_21_P0013088  | 6941 | 2.000 | 6941 | ANKRD13A       | Homo sapiens uncharacterized LOC101928204 (LOC101928204), transcript variant 1, long non-coding RNA [NR_129855]                            |
| A_24_P3697978  | 6926 | 2.002 | 6926 | ANKRD13A       | Homo sapiens ankyrin repeat domain 13A (ANKRD13A), mRNA [NM_031212]  |
| A_33_P3354393  | 6921 | 2.001 | 6921 | CCBE1          | Homo sapiens cell adhesion and adhesion binding EGF domain 1 (CCBE1), mRNA [NM_034269]   |
| A_33_P3354393  | 6921 | 2.001 | 6921 | CCBE1          | Homo sapiens cell adhesion and adhesion binding EGF domain 1 (CCBE1), mRNA [NM_034269]   |
| A_22_P0001312  | 6920 | 2.001 | 6920 | linc-OSBP1-1   | linc-OSBP1-1   |
| A_32_P830882   | 6919 | 2.001 | 6919 | SCN11B         | Homo sapiens sodium channel, non-voltage-gated 1, beta subunit (SCN11B), mRNA [NM_000338]  |
| A_19_P0008680  | 6915 | 2.000 | 6915 | LOC100968680   | Homo sapiens uncharacterized LOC100968680 (LOC100968680), long non-coding RNA [NR_109738]  |
| A_22_P0001217  | 6913 | 2.000 | 6913 | LOC650226      | Homo sapiens clone 24423 mRNA sequence (AF070965)  |
| A_21_P0013426  | 6900 | 2.000 | 6900 | CENPF          | Homo sapiens ankyrin repeat domain 26 pseudogene (LOC650226), non-coding RNA [NR_029420]   |
| A_23_P401      | 6896 | 2.000 | 6896 | CENPF          | Homo sapiens centromere protein F, 350/400Da (CENPF), mRNA [NM_016343]   |
| A_33_P8618629  | 6895 | 2.000 | 6895 | PCBP1-AS1      | Homo sapiens PCBP1 antisense RNA 1 (PCBP1-AS1), long non-coding RNA [NR_038872]  |
| A_19_P00808473 | 6888 | 2.000 | 6888 | PCBP1-2        | Homo sapiens PCBP1 antisense RNA 2 (PCBP1-AS2), lincRNA [linc-OPAI-2]  |
| A_21_P0002825  | 6889 | 2.000 | 6889 | linc-OPAI-2    | linc-OPAI-2  |
| A_33_P3299125  | 6886 | 2.000 | 6886 | SATL1          | Homo sapiens spermidine/spermine N1 acetyl transferase-like 1 (SATL1), mRNA [NM_00102380]  |
| A_21_P0012031  | 6855 | 2.000 | 6855 | SATL1          | Homo sapiens v-maf avian myeloblastosis oncogene homolog F (MAKRF), transcript variant 1, mRNA [NM_012323]                                 |
| A_33_P3228202  | 6844 | 2.000 | 6844 | CH10AD1        | Homo sapiens chondroitin sulfate proteoglycan core domain 1 (CH10AD1), mRNA [NM_00104154]  |
| A_23_P103110   | 6833 | 2.000 | 6833 | MAFF           | Homo sapiens myocyte enhancer factor 1 (MAFF), mRNA [NM_003729]  |
| A_33_P3213408  | 6833 | 2.000 | 6833 | PP4F           | Homo sapiens phosphatase 4, fibroblast receptor 1 (PP4F), mRNA [NM_003729]   |
| A_23_P202104   | 6807 | 2.000 | 6807 | STPR1          | Homo sapiens sphingosine 1-phosphate receptor 1 (STPR1), mRNA [NM_001400]  |
| A_33_P321031   | 6806 | 2.000 | 6806 | STPR1          | Homo sapiens sphingosine 1-phosphate receptor 1 (STPR1), mRNA [NM_001400]  |
| A_32_P175759   | 6804 | 2.000 | 6804 | PP4F           | Homo sapiens sphingosine 1-phosphate receptor 1 (STPR1), mRNA [NM_001400]  |

|                |       |       |       |                  |    |   |
|----------------|-------|-------|-------|------------------|----|---|
| A.33.P2327848  | 6.802 | 2.766 | 6.802 | TC9HL1           | up | Homo sapiens trichostatin-like 1 (TC9HL1), mRNA, NM_001006536   |
| A.23.P232820   | 6.799 | 6.799 | 6.799 | TPP2             | up | Homo sapiens tissue factor pathway inhibitor 2 (TPP2), transcript variant 1, mRNA, NM_006298  |
| A.24.P140608   | 6.795 | 2.164 | 6.795 | HBEFG            | up | Homo sapiens heparin-binding EGF-like growth factor (HBEFG), mRNA, NM_001945  |
| A.33.P24680    | 6.794 | 2.164 | 6.794 | KAA1244          | up | Homo sapiens KIAA1244 (KAA1244), mRNA, NM_020340  |
| A.23.P24683    | 6.792 | 2.164 | 6.792 | LYGGBC           | up | Homo sapiens lymphocyte antigen 6 complex, locus 6BC (LYGGBC), mRNA, NM_025261  |
| A.33.P242822   | 6.786 | 2.163 | 6.786 | GLC2             | up | Homo sapiens gap junction protein, complex 2, 470a (GLC2), mRNA, NM_029435  |
| A.22.P00019084 | 6.782 | 2.162 | 6.782 | LOC101927884     | up | Homo sapiens uncharacterized LOC101927884 (LOC101927884), long non-coding RNA, [NR_110281]  |
| A.33.P2326088  | 6.780 | 2.161 | 6.780 | PRSS3B           | up | Homo sapiens protease, serine, 8 (PRSS3B), mRNA, NM_027779  |
| A.22.P00072044 | 6.777 | 2.161 | 6.777 | CHST3-AS1        | up | CHST3 antisense RNA 1 (Source:HGNC Symbol;Acc:HGNC:30444) [ENST00000517655]   |
| A.21.P4012078  | 6.759 | 2.159 | 6.759 | MIR4439-1HG      | up | Homo sapiens MIR4439-1 host gene (non-protein coding) (MIR4439-1HG), transcript variant 1, long non-coding RNA, [NR_015395]                                   |
| A.32.P232618   | 6.758 | 2.158 | 6.758 | TMEM109A         | up | Homo sapiens transmembrane protein 109A (TMEM109A), transcript variant 1, mRNA, NM_02191586   |
| A.22.P0019297  | 6.754 | 2.158 | 6.754 | LOC101010084     | up | Broad Inhibits, lincRNA, XLOC_1010084, lincRNA, [COONS_2_00019087]  |
| A.22.P00004348 | 6.753 | 2.158 | 6.753 | LOC101010084     | up | Broad Inhibits, lincRNA, XLOC_1010084, lincRNA, [KAT6-1]  |
| A.23.P2327104  | 6.743 | 2.153 | 6.743 | ANXA8            | up | Homo sapiens annexin A8 (ANXA8), transcript variant 1, mRNA, NM_0011156   |
| A.21.P0008905  | 6.741 | 2.153 | 6.741 | LOC-KNN4-1       | up | PREDICTED: Homo sapiens lincRNA, XLOC-KNN4-1, lincRNA, [KAT6-1]   |
| A.22.P00040067 | 6.729 | 2.150 | 6.729 | linc-CHSY1-5     | up | LNCipedia, lincRNA, linc-CHSY1-5, lincRNA, [linc-CHSY1-5]   |
| A.33.P2387951  | 6.726 | 2.150 | 6.726 | KAA1244          | up | Homo sapiens KIAA1244 (KAA1244), mRNA, NM_020340  |
| A.33.P2352382  | 6.715 | 2.147 | 6.715 | ARG1             | up | Homo sapiens arginase 1 (ARG1), transcript variant 1, mRNA, NM_001244438  |
| A.32.P206830   | 6.713 | 2.147 | 6.713 | TPR9             | up | Homo sapiens tumor domain containing 9 (TPR9), mRNA, NM_152046  |
| A.21.P0014238  | 6.713 | 2.147 | 6.713 | CHC14B           | up | PREDICTED: Homo sapiens cell division cycle 14B (CHC14B), transcript variant X2, mRNA, NM_009222817   |
| A.23.P282709   | 6.713 | 2.147 | 6.713 | SPRR3            | up | Homo sapiens small proline-rich protein 3 (SPRR3), transcript variant 1, mRNA, NM_005416  |
| A.23.P129144   | 6.702 | 2.145 | 6.702 | MYZAP            | up | Homo sapiens myocardial zonula adherens protein (MYZAP), transcript variant 1, mRNA, NM_001018100   |
| A.23.P110345   | 6.699 | 2.144 | 6.699 | CHIC2            | up | Homo sapiens cyclin-like hydrophobic domain 2 (CHIC2), mRNA, NM_012110  |
| A.23.P22350    | 6.679 | 2.140 | 6.679 | GRAMD3           | up | Homo sapiens GRAM domain containing 3 (GRAMD3), transcript variant 2, mRNA, NM_023927   |
| A.23.P217291   | 6.678 | 2.139 | 6.678 | UGFA             | up | Homo sapiens transforming growth factor, alpha (UGFA), transcript variant 1, mRNA, NM_002336  |
| A.23.P23871    | 6.677 | 2.138 | 6.677 | EF1B             | up | Homo sapiens EF1 transcription factor 3 (EF1B), transcript variant 1, mRNA, NM_024660   |
| A.13.P232143   | 6.674 | 2.138 | 6.674 | LOC100130938     | up | PREDICTED: Homo sapiens uncharacterized LOC100130938 (LOC100130938), transcript variant X1, mRNA, [XN_110148]   |
| A.23.P232630   | 6.674 | 2.138 | 6.674 | LOC100130938     | up | PREDICTED: Homo sapiens uncharacterized LOC100130938 (LOC100130938), transcript variant X2, long non-coding RNA, [XN_110148]                                  |
| A.23.P232630   | 6.672 | 2.138 | 6.672 | LACSIN1          | up | Homo sapiens long interspersed nuclear element coding RNA 488 (LINC00488), transcript variant 1, long non-coding RNA, [NR_027090]                             |
| A.21.P0001849  | 6.669 | 2.138 | 6.669 | LINC00488        | up | Homo sapiens long interspersed nuclear element coding RNA 488 (LINC00488), transcript variant 2, long non-coding RNA, [NR_027090]                             |
| A.23.P253012   | 6.669 | 2.137 | 6.669 | GRAMD1C          | up | Homo sapiens GRAM domain containing 1C (GRAMD1C), transcript variant 1, mRNA, NM_012571   |
| A.23.P24129    | 6.656 | 2.136 | 6.656 | DKK1             | up | Homo sapiens Dickkopf Wnt signaling pathway inhibitor 1 (DKK1), mRNA, NM_012242   |
| A.19.P0023950  | 6.652 | 2.134 | 6.652 | LOC102467447     | up | Homo sapiens uncharacterized LOC102467447 (LOC102467447), long non-coding RNA, [NR_104664]  |
| A.21.P0014809  | 6.652 | 2.134 | 6.652 | PREDICTED        | up | PREDICTED: Homo sapiens uncharacterized LOC101929774 (LOC101929774), transcript variant X7, mRNA, [XN_110148]   |
| A.22.P00005243 | 6.651 | 2.134 | 6.651 | KONG1            | up | Homo sapiens potassium channel, voltage gated modifier, subfamily G, member 1 (KONG1), mRNA, NM_002237  |
| A.19.P0031831  | 6.650 | 2.133 | 6.650 | LOC101927688     | up | Homo sapiens uncharacterized LOC101927688 (LOC101927688), long non-coding RNA, [NR_110141]  |
| A.21.P0011643  | 6.649 | 2.133 | 6.649 | LOC100979334     | up | Homo sapiens two pore channel 3 pseudogene (LOC100979334), non-coding RNA, [NR_079796]  |
| A.33.P2415087  | 6.644 | 2.132 | 6.644 | CLN5             | up | Homo sapiens chloride channel, voltage-sensitive 5 (CLN5), transcript variant 1, mRNA, NM_001127899   |
| A.24.P17157    | 6.642 | 2.132 | 6.642 | RIMKB            | up | Homo sapiens ribosomal modification protein mtk-like family member B (RIMKB), transcript variant 1, mRNA, NM_020734   |
| A.23.P247485   | 6.642 | 2.131 | 6.642 | RTRN2            | up | Homo sapiens rhotekin 2 (RTRN2), transcript variant 2, mRNA, NM_01292941  |
| A.33.P238255   | 6.641 | 2.131 | 6.641 | AXAY1            | up | Homo sapiens chromosome 6 open reading frame 225 (ORF225), transcript variant 1, mRNA, NM_153248  |
| A.23.P246183   | 6.633 | 2.129 | 6.633 | CHST23           | up | Homo sapiens chromosome 2 sulfatase (CHST23), transcript variant 1, mRNA, NM_002020   |
| A.22.P0007978  | 6.632 | 2.128 | 6.632 | DS               | up | Homo sapiens DNA, F1394822 (AK038444), non-coding RNA, [XN_110148]  |
| A.33.P2327650  | 6.632 | 2.128 | 6.632 | linc-TMSF1-2     | up | Homo sapiens lincRNA, linc-TMSF1-2, lincRNA, [TMSF1-2]  |
| A.23.P2327650  | 6.632 | 2.128 | 6.632 | linc-TMSF1-2     | up | Homo sapiens lincRNA, linc-TMSF1-2, lincRNA, [TMSF1-2]  |
| A.22.P0002225  | 6.620 | 2.127 | 6.620 | linc-C10orf103-2 | up | Homo sapiens lincRNA, linc-C10orf103-2, lincRNA, [C10orf103-2]  |
| A.21.P0008184  | 6.609 | 2.124 | 6.609 | linc-QSOX2-1     | up | Homo sapiens lincRNA, linc-QSOX2-1, lincRNA, [QSOX2-1]  |
| A.22.P00020612 | 6.608 | 2.124 | 6.608 | linc-KLHL35-1    | up | Homo sapiens lincRNA, linc-KLHL35-1, lincRNA, [KLHL35-1]  |
| A.23.P238258   | 6.604 | 2.123 | 6.604 | GDA              | up | Homo sapiens guanine deaminase (GDA), transcript variant 2, mRNA, NM_004293   |
| A.21.P0013860  | 6.598 | 2.122 | 6.598 | LOC101930246     | up | PREDICTED: Homo sapiens uncharacterized LOC101930246 (LOC101930246), transcript variant X2, mRNA, [XN_110148]   |
| A.33.P2320982  | 6.593 | 2.121 | 6.593 | RASGRP2          | up | Homo sapiens RAS guanyl-releasing protein 2 (calcium and DAG-regulated) (RASGRP2), transcript variant 2, mRNA, NM_153819                                      |
| A.23.P26289    | 6.592 | 2.121 | 6.592 | ZNF165           | up | Homo sapiens zinc finger protein 165 (ZNF165), mRNA, NM_034447  |
| A.23.P261841   | 6.589 | 2.120 | 6.589 | RIMKB            | up | Homo sapiens ribosomal modification protein mtk-like family member B (RIMKB), transcript variant 1, mRNA, NM_020734   |
| A.23.P74688    | 6.584 | 2.119 | 6.584 | MMP23B           | up | Homo sapiens matrix metalloproteinase 23B (MMP23B), mRNA, NM_008893   |
| A.23.P435521   | 6.583 | 2.119 | 6.583 | TMEM109A         | up | Homo sapiens transmembrane protein 109A (TMEM109A), transcript variant 2, mRNA, NM_145041   |
| A.33.P2613516  | 6.576 | 2.117 | 6.576 | GATA2-AS1        | up | Homo sapiens GATA2 antisense RNA 1 (GATA2-AS), transcript variant 1, mRNA, NM_0010271534  |
| A.24.P413689   | 6.575 | 2.117 | 6.575 | PRKFB2           | up | Homo sapiens 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 2 (PRKFB2), transcript variant 2, mRNA, NM_001180553  |
| A.33.P2303305  | 6.574 | 2.117 | 6.574 | USCAM            | up | Homo sapiens Down syndrome cell adhesion molecule (USCAM), transcript variant 2, mRNA, NM_001271534   |
| A.33.P232901   | 6.573 | 2.116 | 6.573 | SPINK6           | up | Homo sapiens serine peptidase inhibitor, Kazal type 6 (SPINK6), transcript variant 1, mRNA, NM_026841   |
| A.33.P232901   | 6.568 | 2.113 | 6.568 | MIR72-AS1        | up | Homo sapiens MIR72 antisense RNA 1 (MIR72-AS), transcript variant 1, long non-coding RNA, [NR_034121]   |
| A.33.P232901   | 6.568 | 2.113 | 6.568 | MIR72-AS1        | up | Homo sapiens MIR72 antisense RNA 1 (MIR72-AS), transcript variant 2, long non-coding RNA, [NR_034121]   |
| A.33.P232901   | 6.558 | 2.113 | 6.558 | PRKPI            | up | Homo sapiens serine/threonine kinase, non-activating (PRKPI), transcript variant 1, mRNA, NM_002987   |
| A.23.P206860   | 6.554 | 2.112 | 6.554 | SECF4L1          | up | Homo sapiens SECF4-like 1 (S. cerevisiae) (SECF4L1), transcript variant 1, mRNA, NM_030303  |
| A.33.P2319527  | 6.545 | 2.110 | 6.545 | RTKX2            | up | Homo sapiens cDNA FL393927, clone PBE1.M2001312, weakly similar to Homo sapiens rhesusin mRNA, [AK086671]   |
| A.23.P232865   | 6.540 | 2.109 | 6.540 | ELOV4            | up | Homo sapiens ELOVL4 fatty acid elongase 4 (ELOV4), long non-coding RNA, [NR_028991]   |
| A.22.P0002959  | 6.529 | 2.107 | 6.529 | HIFX-AS1         | up | Homo sapiens HIF1X antisense RNA 1 (HIFX-AS1), long non-coding RNA, [NR_028991]   |
| A.21.P0001888  | 6.527 | 2.106 | 6.527 | linc-PTGFR-1     | up | LNCipedia, lincRNA, linc-PTGFR-1, lincRNA, [linc-PTGFR-1]   |
| A.23.P256244   | 6.527 | 2.106 | 6.527 | OXRL             | up | Oxidation resistance 1 (Source:HGNC Symbol;Acc:HGNC:15822) [ENST0000467705]   |
| A.23.P70007    | 6.521 | 2.105 | 6.521 | HMMR             | up | Homo sapiens hyaluronan-mediated motility receptor (HMMR), transcript variant 4, mRNA, NM_012484  |
| A.33.P2331188  | 6.519 | 2.105 | 6.519 | ARHGAP23         | up | Homo sapiens Rho GTPase activating protein 23 (ARHGAP23), mRNA, NM_001199417  |
| A.21.P0000160  | 6.502 | 2.101 | 6.502 | TMSF1B           | up | Homo sapiens transmembrane 4 L six family member 19 (TMSF1B), transcript variant 1, mRNA, NM_138461   |
| A.22.P00010217 | 6.491 | 2.099 | 6.491 | OLFM1            | up | Homo sapiens olfactomedin-like 1 (OLFM1), mRNA, NM_184474   |
| A.23.P147665   | 6.489 | 2.097 | 6.489 | ST6GALNACT3      | up | Homo sapiens ST6 (alpha-N-acetylneuraminyl-2,3-beta-galactosyl-1,3)-N-acetylglucosaminidase alpha-2,8-sialyltransferase 3 (ST6GALNACT3), transcript variant 2 |
| A.33.P23275055 | 6.484 | 2.097 | 6.484 | FAM221A          | up | Homo sapiens family with sequence similarity 221, member A (FAM221A), transcript variant 1, mRNA, NM_199158   |
| A.33.P23268137 | 6.481 | 2.092 | 6.481 | LOC391715        | up | Homo sapiens uncharacterized LOC391715 (LOC391715), long non-coding RNA, [NR_040791]  |
| A.33.P23268137 | 6.481 | 2.092 | 6.481 | LOC391715        | up | Homo sapiens uncharacterized LOC391715 (LOC391715), long non-coding RNA, [NR_040791]  |
| A.23.P15381    | 6.456 | 2.091 | 6.456 | BPY4             | up | Homo sapiens transient receptor potential cation channel, subfamily X, member 4 (TRPV4), transcript variant 2, mRNA, [NM_147204]                              |
| A.23.P105481   | 6.451 | 2.089 | 6.451 | BUB1B            | up | Homo sapiens BUB1, mitotic checkpoint barrier, breast kinase B (BUB1B), mRNA, NM_001211   |



|                |       |       |       |                   |   |
|----------------|-------|-------|-------|-------------------|---|
| A.23.151.060   | 0.030 | 2.597 | 6.050 | RHBC              | Homo sapiens Rtt family B ribonucleoprotein (gene/pseudogene) (RHBC), transcript variant 1, mRNA [NM_020407]                                    |
| A.21.0006032   | 0.039 | 2.594 | 6.039 | linc-BGATZ-3      | LINC604, lincRNA (linc-BGATZ-3), lincRNA (linc-BGATZ-3), lincRNA [NM_020407]  |
| A.23.129884    | 0.035 | 2.593 | 6.035 | VILL              | Homo sapiens villin-like (VILL), mRNA [NM_011873]   |
| A.23.P196289   | 6.027 | 2.591 | 6.027 | OSMR              | Homo sapiens oncostatin M receptor (OSMR), transcript variant 1, mRNA [NM_003981]   |
| A.33.P326815   | 6.024 | 2.589 | 6.024 | KRTAP4-8          | Homo sapiens keratin associated protein 4-8 (KRTAP4-8), mRNA [NM_001190]  |
| A.23.P121716   | 6.017 | 2.589 | 6.017 | ANKX3             | Homo sapiens ankyrin 3 (ANKX3), mRNA [NM_005139]  |
| A.23.P12463    | 6.016 | 2.588 | 6.016 | GSDX1             | Homo sapiens guanine dinucleotide sulfurylase 1 (GSDX1), transcript variant 1, mRNA [NM_002926]   |
| A.33.P2860715  | 6.013 | 2.588 | 6.013 | FLJ48120          | Homo sapiens cDNA FLJ48120 fs, clone T1E1238733 [AK128922]  |
| A.23.P192547   | 6.000 | 2.585 | 6.000 | MYL2              | Homo sapiens myosin, light chain 2, regulatory, cardiac, slow (MYL2), mRNA [NM_000432]  |
| A.33.P339867   | 5.998 | 2.582 | 5.998 | ANG1              | Homo sapiens angiogenin 1 (ANG1), transcript variant 1, mRNA [NM_012443]  |
| A.33.P368214   | 5.986 | 2.582 | 5.986 | MYO46             | Homo sapiens myosin light chain 2, regulatory, family member 4 (MYO46), mRNA [NM_00110819]  |
| A.33.P3620718  | 5.982 | 2.581 | 5.982 | LOC100288650      | Homo sapiens uncharacterized LOC100288650, long non-coding RNA [NR_038564]  |
| A.19.P00313275 | 5.983 | 2.578 | 5.983 | LINC11234         | long interspersed non-coding RNA 1234 (Source:HGNC Symbol;Acc:HGNC:49633) [ENS000042247]  |
| A.24.P28880    | 5.983 | 2.576 | 5.983 | RAP1GAP           | Homo sapiens RAP1 GTPase activating protein (RAP1GAP), transcript variant 3, mRNA [NM_002851]   |
| A.23.P11691    | 5.958 | 2.575 | 5.958 | MMPI1             | Homo sapiens matrix metalloproteinase 1 (interstitial collagenase) (MMPI1), transcript variant 1, mRNA [NM_002421]                              |
| A.21.P00168865 | 5.957 | 2.574 | 5.957 | linc-KLH125-9     | AGNGC0UR7.7945690.NM.MGC.72.Homo sapiens cDNA clone IMAGE.6148982.5, mRNA sequence [BU166028]   |
| A.21.P0012902  | 5.951 | 2.573 | 5.951 | BROAD             | BROAD Institute lincRNA XLOC_0210100, lincRNA [COONS.2.00022859]  |
| A.23.P84103    | 5.950 | 2.573 | 5.950 | SCARF5            | Homo sapiens scavenger receptor class A, member 5 (SCARF5), mRNA [NM_173833]  |
| A.22.P0001635  | 5.938 | 2.570 | 5.938 | lnc-EST1004819.5  | lnc-EST1004819.5.12SN1218.Homo sapiens cDNA clone S12SN1218-6-A12.5, mRNA sequence [BM160294]   |
| A.33.P3274949  | 5.937 | 2.570 | 5.937 | ACOXL             | acyl-CoA oxidase-like (Source:HGNC Symbol;Acc:HGNC:2982) [ENS0000034056]  |
| A.33.P3278658  | 5.919 | 2.565 | 5.919 | POF1B             | Homo sapiens premature ovarian failure 1B (POF1B), mRNA [NM_024821]   |
| A.33.P3312119  | 5.918 | 2.565 | 5.918 | COIF89            | Homo sapiens chromosome 6 open reading frame 99 (COIF89), transcript variant 1, mRNA [NM_001030239]   |
| A.33.P328790   | 5.912 | 2.564 | 5.912 | FAM55C            | Homo sapiens family with sequence similarity 55, member C (FAM55C), transcript variant 2, mRNA [NM_001029088]                                   |
| A.24.P85779    | 5.909 | 2.563 | 5.909 | THEM5Z            | Homo sapiens thymocyte selection associated family member 2 (THEM5Z), transcript variant 2, mRNA [NM_001038477]                                 |
| A.22.P00106447 | 5.906 | 2.562 | 5.906 | linc-NEODAL-2     | Homo sapiens cDNA FLJ45653 fs, clone CTONG2012425, [AK121786]   |
| A.21.P0010082  | 5.904 | 2.562 | 5.904 | linc-NGO43-9      | LINC604, lincRNA (linc-NGO43-9), lincRNA (linc-NGO43-9)   |
| A.24.P101976   | 5.900 | 2.560 | 5.900 | PAB1B             | Homo sapiens premature ovarian failure 1B (POF1B), mRNA [NM_024821]   |
| A.33.P331306   | 5.899 | 2.560 | 5.899 | linc-NGO43-9      | Homo sapiens premature ovarian failure 1B (POF1B), mRNA [NM_024821]   |
| A.33.P2289254  | 5.895 | 2.560 | 5.895 | LOC641927         | Homo sapiens cDNA FLJ30852 fs, clone BHC049200843, [AK095971]   |
| A.33.P2420236  | 5.890 | 2.558 | 5.890 | GSGALNACT2        | Homo sapiens chondroitin sulfate 6-sulfatase/lectin-like lectinase 2 (GSGALNACT2), mRNA [NM_018590]   |
| A.32.P129669   | 5.889 | 2.558 | 5.889 | FRMPD3            | Homo sapiens FRMP and PDZ domain containing 3 (FRMPD3), mRNA [NM_024293]  |
| A.33.P3305228  | 5.889 | 2.558 | 5.889 | MP1RP             | myosin phosphatase, Pko interacting protein [Source:HGNC Symbol;Acc:HGNC:30321] [ENS00000398807]  |
| A.33.P3336562  | 5.887 | 2.558 | 5.887 | TMEM51-AS1        | Homo sapiens TMEM51 antisense RNA 1 (TMEM51-AS1), long non-coding RNA [NR_027138]   |
| A.24.P83465    | 5.865 | 2.552 | 5.865 | resendin          | Source:HGNC Symbol;Acc:HGNC:32988 [ENS0000042957]   |
| A.21.P0011586  | 5.860 | 2.551 | 5.860 | HMCN1             | keratin 22, pseudogene (lincHMCN1), mRNA [NM_031935]  |
| A.23.P148890   | 5.859 | 2.551 | 5.859 | LOC101927688      | Homo sapiens uncharacterized LOC101927688, long non-coding RNA [NR_110114]  |
| A.21.P0013285  | 5.851 | 2.549 | 5.851 | ENO2              | Homo sapiens uncharacterized LOC101927688 (LOC101927688), long non-coding RNA [NR_110114]   |
| A.23.P236691   | 5.847 | 2.548 | 5.847 | LINC01405         | Homo sapiens enolase 2 (gamma, neuronal) (ENO2), mRNA [NM_001915]   |
| A.32.P211248   | 5.846 | 2.548 | 5.846 | USP2              | Homo sapiens long interspersed non-protein coding RNA 1405 (LINC01405), long non-coding RNA [NR_036513]   |
| A.22.P00013456 | 5.844 | 2.547 | 5.844 | USP2-AS1          | Homo sapiens USP2 antisense RNA 1 (head to head) (USP2-AS1), long non-coding RNA [NR_034160]  |
| A.32.P228646   | 5.843 | 2.547 | 5.843 | LOC10029781       | PREDICTED: Homo sapiens uncharacterized LOC10029781 (LOC10029781), transcript variant X2, ncRNA [XR_092993]                                     |
| A.33.P327650   | 5.841 | 2.546 | 5.841 | ABHD11            | transmembrane protein 191C (Source:HGNC Symbol;Acc:HGNC:3580) [ENS0000049424]   |
| A.23.P135633   | 5.840 | 2.546 | 5.840 | ABHD11            | Homo sapiens abhydrolase domain containing 11 (ABHD11), transcript variant 1, mRNA [NM_148912]  |
| A.22.P001172   | 5.838 | 2.545 | 5.838 | AS3               | PREDICTED: Homo sapiens uncharacterized LOC102948686 (LOC102948686), transcript variant 4, mRNA [NM_003056]                                     |
| A.33.P327650   | 5.832 | 2.544 | 5.832 | AS3               | Homo sapiens protein with a GSTIN 1-like domain (AS3), transcript variant 1, mRNA [NR_032273]   |
| A.33.P327650   | 5.832 | 2.544 | 5.832 | FAM106B           | Homo sapiens family with sequence similarity 106, member B (FAM106B), mRNA [NM_001120881]   |
| A.33.P3246601  | 5.827 | 2.543 | 5.827 | BMF               | Homo sapiens BMF2 modifying factor (BMF), transcript variant 1, mRNA [NM_001003840]   |
| A.33.P3287314  | 5.824 | 2.542 | 5.824 | FOXO3             | Homo sapiens forkhead box O3 (FOXO3), transcript variant 1, mRNA [NM_001445]  |
| A.32.P10280    | 5.816 | 2.540 | 5.816 | GP2A              | Homo sapiens glucocorticoid, beta (bile acid) 2 (G2A2), mRNA [NM_020944]  |
| A.24.P241187   | 5.815 | 2.540 | 5.815 | linc-ACO10538.1-1 | Q5SCR0.ABATH (Q5SCR0) Sraenew-like 7 (SCL7), partial (4%) [THC2724706]  |
| A.33.P3244834  | 5.812 | 2.539 | 5.812 | VGLL3             | Homo sapiens vetail-like family member 3 (VGLL3), partial (4%) [THC2724706]   |
| A.22.P00020557 | 5.799 | 2.536 | 5.799 | APCDD1L-AS1       | Homo sapiens APCDD1L antisense RNA 1 (head to head) (APCDD1L-AS1), long non-coding RNA [NR_034147]  |
| A.23.P192763   | 5.792 | 2.534 | 5.792 | LOC101927152      | PREDICTED: Homo sapiens uncharacterized LOC101927152 (LOC101927152), ncRNA [XR_245324]  |
| A.22.P00017392 | 5.792 | 2.534 | 5.792 | LOC101927152      | Homo sapiens long interspersed non-protein coding RNA 1564 (LINC01564), long non-coding RNA [NR_125941]   |
| A.21.P0014468  | 5.778 | 2.531 | 5.778 | LINC01564         | Homo sapiens monoysterase like (MGLL), transcript variant 1, mRNA [NM_007293]   |
| A.33.P333668   | 5.776 | 2.530 | 5.776 | MGLL1             | PREDICTED: Homo sapiens uncharacterized LOC10272827 (LOC10272827), ncRNA [XR_229513]  |
| A.19.P00807433 | 5.775 | 2.530 | 5.775 | LOC10272827       | long interspersed non-protein coding RNA 372 (Source:HGNC Symbol;Acc:HGNC:46899) [ENS0000472756]  |
| A.24.P226008   | 5.764 | 2.527 | 5.764 | FOXP6             | Homo sapiens forkhead box O (FOXP6), transcript variant 4, mRNA [NM_003056]   |
| A.21.P0030580  | 5.763 | 2.526 | 5.763 | CHRNA1            | Homo sapiens 5B3 domain and tetrahydropteridine reductase (CHRNA1), mRNA [NM_003056]  |
| A.19.P00314467 | 5.761 | 2.526 | 5.761 | MGLL1             | Homo sapiens monoysterase like (MGLL), transcript variant 1, mRNA [NM_007293]   |
| A.33.P314563   | 5.758 | 2.526 | 5.758 | CHRNA1            | Homo sapiens 5B3 domain and tetrahydropteridine reductase (CHRNA1), mRNA [NM_003056]  |
| A.33.P201706   | 5.751 | 2.524 | 5.751 | MGLL1             | Homo sapiens monoysterase like (MGLL), transcript variant 1, mRNA [NM_007293]   |
| A.33.P3281795  | 5.750 | 2.523 | 5.750 | LOC6263           | Homo sapiens coiled-coil domain containing 63 (CCDC63), transcript variant 1, mRNA [NM_152991]  |
| A.33.P3265749  | 5.746 | 2.523 | 5.746 | PTGER3            | Homo sapiens prostaglandin E receptor 3 (EP3), (PTGER3), transcript variant 7, mRNA [NM_189717]   |
| A.33.P3215933  | 5.728 | 2.518 | 5.728 | MP2L3             | Homo sapiens myelin protein zero-like 3 (MP2L3), transcript variant 1, mRNA [NM_199275]   |
| A.33.P3301469  | 5.726 | 2.518 | 5.726 | ANKRD30BL         | Homo sapiens ankyrin repeat domain 30B-like (ANKRD30BL), transcript variant 1, non-coding RNA [NR_027019]                                       |
| A.22.P0006355  | 5.717 | 2.515 | 5.717 | SLOC101928684     | PREDICTED: Homo sapiens uncharacterized LOC101928684 (LOC101928684), ncRNA [XR_244459]  |
| A.33.P3331853  | 5.716 | 2.515 | 5.716 | PDE1C             | Homo sapiens solute carrier, family 10, (oligosaccharide transporter), member 2 (SLOC2A2), transcript variant 2, mRNA [NM_008749]               |
| A.33.P3391887  | 5.708 | 2.513 | 5.708 | LOC100981168      | Homo sapiens phosphodiesterase 1C, calmodulin-dependent 700Da (PDE1C), transcript variant 1, mRNA [NM_028692]                                   |
| A.33.P321694   | 5.705 | 2.512 | 5.705 | HERC4             | Homo sapiens uncharacterized LOC10028168 (LOC10028168), transcript variant 1, long non-coding RNA [NR_028692]                                   |
| A.33.P3238166  | 5.688 | 2.510 | 5.688 | PXDN              | Homo sapiens HECT and RLD domain containing E3 ubiquitin protein ligase 4 (HERC4), transcript variant 5, mRNA [NM_001278187]                    |
| A.33.P3272882  | 5.685 | 2.510 | 5.685 | PLEKHM1           | Homo sapiens pleckstrin homology domain containing, family M (with RUM domain) member 1 (PLEKHM1), transcript variant 1, mRNA [NM_017198]       |
| A.23.P211572   | 5.684 | 2.510 | 5.684 | PPP1R1C           | Homo sapiens septin 3 (SEPT3), transcript variant A, mRNA [NM_145739]   |
| A.33.P368504   | 5.687 | 2.508 | 5.687 | PPP1R1C           | Homo sapiens protein phosphatase 1, regulatory subunit 1C (PPP1R1C), transcript variant 1, mRNA [NM_001261424]                                  |
| A.19.P00203979 | 5.685 | 2.507 | 5.685 | LINC-PINT         | Homo sapiens long interspersed non-protein coding RNA 163 induced transcript (LINC-PINT), transcript variant 8, long non-coding RNA [NR_088855] |
| A.32.P28027    | 5.684 | 2.507 | 5.684 | LCHN1             | Homo sapiens leucylamin (LCHN), mRNA [NM_007113]  |

|                |       |       |       |                        |   |
|----------------|-------|-------|-------|------------------------|---|
| A.33.P230213   | 5.680 | 2.506 | 5.680 | RQL3                   | Homo sapiens rat guanine nucleotide dissociation stimulator-like 3 (RQL3), transcript variant 1, mRNA [NM_00161616]             |
| A.23.P11530    | 5.679 | 2.506 | 5.679 | TNFRSF11B              | Homo sapiens tumor necrosis factor receptor superfamily member 11b (TNFRSF11B), mRNA [NM_0025246]                               |
| A.23.P200310   | 5.676 | 2.505 | 5.676 | DEPDC1                 | Homo sapiens DEP domain containing 1 (DEPDC1), transcript variant 2, mRNA [NM_017779]   |
| A.23.P403424   | 5.676 | 2.505 | 5.676 | JMJD7-PLA2G4B          | Homo sapiens JMJD7-PLA2G4B readthrough (JMJD7-PLA2G4B), transcript variant 1, mRNA [NM_009090]                                  |
| A.21.P000611   | 5.665 | 2.502 | 5.665 | IC-EST000689           | S12SNL216 Homo sapiens cDNA clone S12SNL216-A12.5, mRNA sequence [BM700324]   |
| A.22.P0000876  | 5.664 | 2.502 | 5.664 | G8BDJL8.PSEK (G8BDJL8) | Procurin-2 c20-methylation, partial (7%) [HG2536939]  |
| A.23.P253667   | 5.663 | 2.501 | 5.663 | MIR37HG                | Homo sapiens MIR37 host gene (non-protein coding) (MIR37-HG), long non-coding RNA [NR_027148]                                   |
| A.33.P2312102  | 5.651 | 2.499 | 5.651 | SLC10A8                | Homo sapiens solute carrier family 10 (sodium/bile acid cotransporter), member 8 (SLC10A8), mRNA [NM_197965]                    |
| A.22.P0002028  | 5.643 | 2.497 | 5.643 | linc-OR10A81P-2        | DEP15008 THAGS1 Homo sapiens cDNA clone THAGS1003651.5, mRNA sequence [DEP15008]  |
| A.23.P230205   | 5.643 | 2.497 | 5.643 | ADL103                 | Homo sapiens actin binding LIM protein family, member 3 (ADL103), transcript variant 2, mRNA [NM_014945]                        |
| A.22.P0001728  | 5.643 | 2.496 | 5.643 | TMSFP-AS1              | Homo sapiens TMSFP antisense RNA 1 (TMSFP-AS1), transcript variant 1, long non-coding RNA [NR_090809]                           |
| A.32.P216545   | 5.638 | 2.495 | 5.638 | C6orf132               | Homo sapiens chromosome 6 open reading frame 132 (C6orf132), mRNA [NM_00184448]   |
| A.32.P2223173  | 5.634 | 2.494 | 5.634 | LOC102726363           | PREDICTED: Homo sapiens secretase-like transcript 5b-like (LOC102726363), misc. RNA [X434242]                                   |
| A.33.P2353384  | 5.625 | 2.492 | 5.625 | BP1FC                  | Homo sapiens BP1 fold containing family C (BP1FC), mRNA [NM_174832]   |
| A.21.P0002457  | 5.617 | 2.490 | 5.617 | RUSC2                  | Homo sapiens RUN and SH3 domain containing 2 (RUSC2), transcript variant 2, mRNA [NM_014806]                                    |
| A.23.P216549   | 5.608 | 2.487 | 5.608 | LOC4040117             | Homo sapiens uncharacterized LOC4040117, long non-coding RNA [NR_038970]  |
| A.33.P2365463  | 5.606 | 2.487 | 5.606 | PKRFE3                 | Homo sapiens 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3 (PKRFE3), transcript variant 1, mRNA [NM_004566]            |
| A.24.P206604   | 5.605 | 2.487 | 5.605 | SLPI                   | Homo sapiens secretory leukocyte peptidase inhibitor (SLPI), mRNA [NM_003064]   |
| A.24.P190472   | 5.600 | 2.485 | 5.600 | LOC101929223           | Homo sapiens uncharacterized LOC101929223 (LOC101929223), long non-coding RNA [NR_128888]                                       |
| A.21.P0006875  | 5.594 | 2.484 | 5.594 | linc-ATP9B2-1          | LNGedella lincRNA linc-ATP9B2-1, lincRNA [linc-ATP9B2-1.1]  |
| A.21.P0001001  | 5.582 | 2.481 | 5.582 | BRD7F3                 | Homo sapiens bromodomain containing 7 pseudogene 3 (BRD7F3), non-coding RNA [NR_002726]   |
| A.33.P3313680  | 5.582 | 2.481 | 5.582 | C10TNF6                | Homo sapiens C1q and tumor necrosis factor related protein 6 (C10TNF6), transcript variant 1, mRNA [NM_031910]                  |
| A.24.P211565   | 5.582 | 2.481 | 5.582 | PREDICTED              | Homo sapiens uncharacterized LOC101929882 (LOC101929882), mRNA [X425374]  |
| A.21.P0010042  | 5.578 | 2.480 | 5.578 | PAD32                  | Homo sapiens perlecan domain, type II (PAD32), mRNA [NM_007205]   |
| A.23.P201747   | 5.576 | 2.479 | 5.576 | LAMA4                  | Homo sapiens lamin, alpha 4 (LAMA4), transcript variant 1, mRNA [NM_00102636]   |
| A.33.P3308144  | 5.573 | 2.478 | 5.573 | L1RN                   | Homo sapiens interlaminar 1 receptor antagonist 1b (L1RN), transcript variant 4, mRNA [NM_178445]                               |
| A.33.P3306533  | 5.567 | 2.477 | 5.567 | OSMR                   | Homo sapiens oncostatin M receptor (OSMR), transcript variant 2, mRNA [NM_001185935]  |
| A.23.P272018   | 5.559 | 2.476 | 5.559 | RCMA                   | Homo sapiens replicative midline molecule family member 8 (RCMA), transcript variant 4, mRNA [NM_020211]                        |
| A.21.P0000723  | 5.558 | 2.475 | 5.558 | BGL2L1                 | Homo sapiens BGL2-like 1 (BGL2L1), transcript variant 1, mRNA [NM_138578]   |
| A.23.P211886   | 5.550 | 2.472 | 5.550 | PRMIK                  | Homo sapiens protein phosphatase M22/M22-dependent, IK (Source:HGNC Symbol;Acc:HGNC:25419) [ENS:00000508423]                    |
| A.23.P3314356  | 5.544 | 2.471 | 5.544 | ZNF395                 | Homo sapiens zinc finger protein 395 (ZNF395), transcript variant 1, mRNA [NM_181901]   |
| A.24.P226970   | 5.539 | 2.470 | 5.539 | ITGA1                  | Homo sapiens integrin, alpha 1 (ITGA1), mRNA [NM_181901]  |
| A.33.P333391   | 5.538 | 2.469 | 5.538 | HMG2A                  | Homo sapiens high mobility group A1-like 2 (HMG2A), transcript variant 1, mRNA [NM_003483]                                      |
| A.22.P958300   | 5.536 | 2.469 | 5.536 | RASAL2-AS1             | Homo sapiens RASAL2 antisense RNA 1 (RASAL2-AS1), long non-coding RNA [NR_027382]   |
| A.22.P00014205 | 5.522 | 2.465 | 5.522 | EXPH5                  | Homo sapiens exophilin 5 (EXPH5), mRNA [NM_015985]  |
| A.23.P403335   | 5.516 | 2.464 | 5.516 | linc-PRRP-2            | G8EQW2 MANSE (G8EQW2) CAPA, partial (7%) [HG251482]   |
| A.22.P0001747  | 5.515 | 2.463 | 5.515 | linc-OR10H1-1          | LNGedella lincRNA linc-OR10H1-1, lincRNA [linc-OR10H1-1.1]  |
| A.22.P00011229 | 5.515 | 2.463 | 5.515 | CFAP58                 | Homo sapiens cilia and flagella associated protein 58 (CFAP58), mRNA [NM_001006723]   |
| A.33.P257597   | 5.512 | 2.462 | 5.512 | RTF4                   | Homo sapiens keratin 4, type II (RTF4), mRNA [NM_002272]  |
| A.23.P2874     | 5.511 | 2.462 | 5.511 | LOC102723788           | PREDICTED: Homo sapiens uncharacterized LOC102723788 (LOC102723788), mRNA [X429765]   |
| A.22.P0000248  | 5.510 | 2.462 | 5.510 | LOC324262              | Homo sapiens CD342 director protein (linc-GTPase binding 2) (CD324262), mRNA [NM_006778]  |
| A.23.P182      | 5.509 | 2.462 | 5.509 | USNA1                  | Homo sapiens nuclear phosphatase 3 (USNA1), mRNA [NM_00100006870]   |
| A.23.P33067    | 5.508 | 2.461 | 5.508 | USNA1                  | Homo sapiens nuclear phosphatase 3 (USNA1), mRNA [NM_00100006870]   |
| A.33.P3301937  | 5.497 | 2.456 | 5.497 | USNA1                  | Homo sapiens nuclear phosphatase 3 (USNA1), mRNA [NM_00100006870]   |
| A.33.P2104438  | 5.491 | 2.455 | 5.491 | MYPN1                  | Homo sapiens myopalladin (MYPN1), transcript variant 1, mRNA [NM_01037620]  |
| A.33.P2418125  | 5.475 | 2.453 | 5.475 | GLP1R1                 | Homo sapiens glucoferritin-related 1 (GLP1R1), mRNA [NM_008651]   |
| A.23.P31873    | 5.467 | 2.451 | 5.467 | RAB11FIP1              | Homo sapiens RAB11 family interacting protein 1 (class I) (RAB11FIP1), transcript variant 3, mRNA [NM_001002814]                |
| A.33.P2388292  | 5.465 | 2.450 | 5.465 | CDT1                   | Homo sapiens chromatin licensing and DNA replication factor 1 (CDT1), mRNA [NM_030928]  |
| A.33.P2324809  | 5.456 | 2.448 | 5.456 | PAX8                   | Homo sapiens paired box 8 (PAX8), transcript variant PAX8A, mRNA [NM_003446]  |
| A.33.P3337154  | 5.451 | 2.447 | 5.451 | LOC102724545           | PREDICTED: Homo sapiens uncharacterized LOC102724545 (LOC102724545), transcript variant X1, ncRNA [X425293]                     |
| A.33.P2406504  | 5.438 | 2.443 | 5.438 | PIF1                   | Homo sapiens PIF1 B'-to-3' DNA helicase (PIF1), transcript variant 2, mRNA [NM_025048]  |
| A.23.P416468   | 5.437 | 2.443 | 5.437 | OPHN1                  | Homo sapiens oligohemerin 1 (OPHN1), mRNA [NM_002547]   |
| A.33.P3218118  | 5.436 | 2.443 | 5.436 | POBPT-AS1              | Homo sapiens POBPT antisense RNA 1 (POBPT-AS1), long non-coding RNA [NR_033672]   |
| A.33.P3307315  | 5.432 | 2.442 | 5.432 | MYEP2                  | Homo sapiens myelin expression factor 2 (MYEP2), transcript variant 1, mRNA [NM_016122]   |
| A.33.P6817064  | 5.431 | 2.441 | 5.431 | TRK2                   | Scoring neuron 18 pseudogene 3 (Source:HGNC Symbol;Acc:HGNC:98011) [ENS:0000065870]   |
| A.33.P2323869  | 5.426 | 2.440 | 5.426 | TRK2                   | Homo sapiens three primes repair exonuclease 2 (TRK2), mRNA [NM_080701]   |
| A.33.P3303556  | 5.424 | 2.438 | 5.424 | LRG1                   | Homo sapiens leucine rich repeat domain containing 1 (LRG1), mRNA [NM_002425]   |
| A.23.P207166   | 5.424 | 2.438 | 5.424 | LRG1                   | Homo sapiens leucine rich repeat domain containing 1 (LRG1), mRNA [NM_002425]   |
| A.21.P0002565  | 5.414 | 2.437 | 5.414 | ESR118106              | Homo sapiens long intergenic non-protein coding RNA 1248 (LRG1) [LRG1], long non-coding RNA [NR_027154]                         |
| A.22.P0001012  | 5.413 | 2.437 | 5.413 | CDH16                  | EST118106, Jarkat, T-mink V. Homo sapiens cDNA 5' end, mRNA sequence [AA310927]   |
| A.23.P10240    | 5.408 | 2.435 | 5.408 | ISYNA1                 | Homo sapiens cadherin 16, KSP-cadherin (CDH16), transcript variant 1, mRNA [NM_004632]  |
| A.33.P3306504  | 5.406 | 2.435 | 5.406 | PDE2A                  | Homo sapiens inositol 5'-phosphatase 1 (ISYNA1), transcript variant 1, mRNA [NM_016388]   |
| A.23.P401106   | 5.399 | 2.433 | 5.399 | XLOC_02_019354         | Homo sapiens phosphodiesterase 2A, cGMP-stimulated (PDE2A), transcript variant 1, mRNA [NM_002599]                              |
| A.21.P0013282  | 5.395 | 2.432 | 5.395 | AKAP12                 | BROAD Institute lincRNA XLOC_02_019354, lincRNA [XCONS_02_00026195]   |
| A.33.P2407392  | 5.385 | 2.429 | 5.385 | KIF19                  | Rho GTPase activating protein 29 pseudogene 1 (Source:HGNC Symbol;Acc:HGNC:45039) [ENS:00000568723]                             |
| A.32.P146817   | 5.384 | 2.429 | 5.384 | KIF19                  | Homo sapiens A kinase (PKA) anchor protein 12 (AKAP12), transcript variant 2, mRNA [NM_144497]                                  |
| A.32.P106830   | 5.383 | 2.428 | 5.383 | KIF19                  | Homo sapiens kinesin family member 19 (KIF19), mRNA [NM_153209]   |
| A.23.P282324   | 5.377 | 2.427 | 5.377 | CARD11                 | Homo sapiens kinesin family member 19 (KIF19), mRNA [NM_153209]   |
| A.23.P110213   | 5.371 | 2.425 | 5.371 | NKAIN2                 | Homo sapiens caspase recruitment domain family, member 11 (CARD11), mRNA [NM_001040214]   |
| A.23.P100711   | 5.366 | 2.424 | 5.366 | PMP22                  | Homo sapiens Na <sup>+</sup> /K <sup>+</sup> transporting ATPase interacting 2 (NKAIN2), transcript variant 1, mRNA [NM_000304] |
| A.22.P0001802  | 5.363 | 2.423 | 5.363 | linc-MTRR-8            | R512229 Atherys RAGE Library Homo sapiens cDNA, mRNA sequence [R512229]   |
| A.23.P432013   | 5.362 | 2.422 | 5.362 | GLP1R4                 | Homo sapiens zona pellucida-like domain containing 1 (ZPLD1), mRNA [NM_175959]  |
| A.33.P2306572  | 5.360 | 2.422 | 5.360 | GLP1R4                 | Homo sapiens CAP-Gly domain containing fiber protein, member 4 (GLP1R4), transcript variant 3, mRNA [NM_001297528]              |
| A.33.P2306571  | 5.359 | 2.421 | 5.359 | GLP1R4                 | Homo sapiens pygmalinase 1 (GLP1R4), transcript variant 1, mRNA [NM_010112]   |
| A.22.P26011562 | 5.353 | 2.420 | 5.353 | DNAH2-AS1              | Homo sapiens DNAH2 antisense RNA 1 (DNAH2-AS1), long non-coding RNA [NR_125301]   |







|                |       |       |       |                 |   |
|----------------|-------|-------|-------|-----------------|---|
| A.23.P234870   | 4.805 | 2.264 | 4.804 | TIME217         | Homo sapiens transmembrane protein 217 (TIME217), transcript variant 1, mRNA [NM.146316]  |
| A.33.P198409   | 4.804 | 2.264 | 4.804 | LOC101928973    | Homo sapiens uncharacterized LOC101928973 (LOC101928973), long non-coding RNA [NR.123066]   |
| A.33.P160403   | 4.800 | 2.803 | 4.800 | AT1GBB          | Homo sapiens autophagy related 8B (AT8B), transcript variant 2, non-coding RNA [NR.072169]  |
| A.24.P150466   | 4.796 | 2.802 | 4.796 | SMOCl           | Homo sapiens SPARC related modular calcium binding 1 (SMOCl), transcript variant 1, mRNA [NM.01034852]  |
| A.32.P170158   | 4.795 | 2.802 | 4.795 | LII RB3         | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily B with TM and ITIM domains, member 3 (LII RB3), transcript variant 2, mRNA [NM.008804]         |
| A.33.P237324   | 4.794 | 2.801 | 4.794 | RETSAT          | retinol saturation of trans-retinol 13,14-reductase [Source:HGNC Symbol:AC092591] [ENS:0000049291]  |
| A.33.P232809   | 4.792 | 2.801 | 4.792 | ITS68F5         | Homo sapiens (gap=0, gap=1, gap=2), partial (843) [THC923717]   |
| A.21.P0013888  | 4.788 | 2.800 | 4.788 | TPTE2           | Homo sapiens transmembrane phosphohistidine 3-phosphatase and tetrakis homolog 2 (TPTE2), transcript variant 3, mRNA [NM.199254]                              |
| A.22.P0003824  | 4.788 | 2.259 | 4.788 | hsc-ERAL1-1     | DKFZ781D1538.s1 (synovium tissue) Homo sapiens cDNA clone DKFZ781D1538.s1, mRNA sequence [BX844926]   |
| A.23.P42381    | 4.785 | 2.258 | 4.785 | PRSS36          | Homo sapiens protease, serine, 36 (PRSS36), transcript variant 2, mRNA [NM.01029597]  |
| A.22.P0003823  | 4.781 | 2.258 | 4.781 | hsc-1Y2         | Homo sapiens protein 22 (AN242), transcript variant 2, mRNA [NM.01029597]   |
| A.23.P42382    | 4.781 | 2.258 | 4.781 | hsc-1Y2         | Homo sapiens protein 22 (AN242), transcript variant 1, mRNA [NM.01029597]   |
| A.24.P160669   | 4.775 | 2.657 | 4.775 | TEB11           | Homo sapiens telomeric binding protein 11 (TEB11), transcript variant 1, mRNA [NM.01238290]   |
| A.33.P232800   | 4.773 | 2.255 | 4.773 | MX2             | MX domain-like GTPase 2 [Source:HGNC Symbol:AC092593] [ENS:0000049892]  |
| A.21.P0014153  | 4.773 | 2.255 | 4.773 | LOC102724201    | LOC102724201 (LOC102724201), transcript variant 1, long non-coding RNA [NR.128975]  |
| A.23.P218675   | 4.771 | 2.254 | 4.771 | WFD02           | Homo sapiens WAP four-disulfide core domain 2 (WFD02), mRNA [NM.006103]   |
| A.23.P241868   | 4.771 | 2.254 | 4.771 | LYPD2           | Homo sapiens LY6/PLAUF domain containing 2 (LYPD2), mRNA [NM.205545]  |
| A.24.P2323148  | 4.765 | 2.252 | 4.765 | LYPD5           | Homo sapiens LY6/PLAUF domain containing 5 (LYPD5), transcript variant 6, mRNA [NM.182373]  |
| A.21.P0012446  | 4.759 | 2.251 | 4.759 | BROAD           | BROAD Institute lincRNA XLOC_0210239, lincRNA [CONS.12.00018354]  |
| A.22.P00091133 | 4.758 | 2.250 | 4.758 | LINC004482      | Homo sapiens long intergenic non-protein coding RNA 482 (LINC004482), long non-coding RNA [NR.038090]   |
| A.22.P00070179 | 4.757 | 2.250 | 4.757 | DSC             | Homo sapiens discurate 2-sulfatase (DSC), transcript variant 2, mRNA [NM.006123]  |
| A.33.P322573   | 4.757 | 2.250 | 4.757 | GSOX1           | Homo sapiens quiescin Q6 sulfurylase 1 (GSOX1), transcript variant 2, mRNA [NM.01004128]  |
| A.23.P301336   | 4.756 | 2.250 | 4.756 | RHCG1L          | Homo sapiens RSH domain and coiled-coil containing 1-like (RHCG1L), transcript variant 4, mRNA [NM.014472]  |
| A.23.P2327517  | 4.756 | 2.250 | 4.756 | ZNF292          | Zinc finger protein 292 [Source:HGNC Symbol:AC092594] [ENS:0000039576]  |
| A.24.P26204    | 4.755 | 2.250 | 4.755 | MAILL           | Homo sapiens mal, T-cell differentiation protein-like (MAILL), mRNA [NM.005434]   |
| A.22.P0003332  | 4.753 | 2.249 | 4.753 | hsc-GAS1-2      | AI108377 antibody-derived luciferase aminopeptidase (Homo sapiens) (gap=1, gap=2, gap=3), partial (66) [THC250182]  |
| A.33.P232639   | 4.736 | 2.244 | 4.736 | FAM90A1         | Homo sapiens family with sequence similarity 90, member A1 (FAM90A1), mRNA [NM.016989]  |
| A.33.P232745   | 4.736 | 2.244 | 4.736 | SG3742          | Homo sapiens soluble carrier family 37 (beta class) phosphoinositide dependent-1 kinase domain containing 37 (SG3742), transcript variant 2, mRNA [NM.004286] |
| A.33.P232744   | 4.736 | 2.244 | 4.736 | SG3742          | Homo sapiens soluble carrier family 37 (beta class) phosphoinositide dependent-1 kinase domain containing 37 (SG3742), transcript variant 1, mRNA [NM.004286] |
| A.21.P0003004  | 4.732 | 2.243 | 4.732 | hsc-TNFRSF13B-3 | hsc-TNFRSF13B-3 (hsc-TNFRSF13B-3), mRNA [NM.01695138-3.1]   |
| A.23.P168848   | 4.729 | 2.242 | 4.729 | LTF             | Homo sapiens lactoferrin (LTF), transcript variant 1, mRNA [NM.005243]  |
| A.23.P203710   | 4.727 | 2.241 | 4.727 | ACAN            | Homo sapiens agrin (ACAN), transcript variant 2, mRNA [NM.013227]   |
| A.23.P250815   | 4.722 | 2.239 | 4.722 | LYVH1           | Homo sapiens twenty family member 1 (LYVH1), transcript variant 1, mRNA [NM.020695]   |
| A.33.P242739   | 4.720 | 2.238 | 4.720 | LOC100134837    | Homo sapiens cDNA clone IMAGE526324, [BC035129]   |
| A.23.P14774    | 4.719 | 2.238 | 4.719 | GTSH            | Homo sapiens cathepsin H (GTSH), mRNA [NM.004390]   |
| A.33.P2370187  | 4.718 | 2.238 | 4.718 | EPH82           | Homo sapiens EPH receptor B2 (EPH82), transcript variant 2, mRNA [NM.004442]  |
| A.23.P141802   | 4.715 | 2.237 | 4.715 | SERPINE7        | Homo sapiens serpin peptidase inhibitor, class B (ovalbumin), member 7 (SERPINE7), transcript variant 2, mRNA [NM.00140147]                                   |
| A.23.P144123   | 4.710 | 2.236 | 4.710 | SLC22A13        | Homo sapiens solute carrier family 22 (organic anion/urate transporter), member 13 (SLC22A13), mRNA [NM.004256]   |
| A.24.P256638   | 4.705 | 2.234 | 4.705 | GABARAPL2       | Homo sapiens GABA(A) receptor-associated protein-like 2 (GABARAPL2), mRNA [NM.007985]   |
| A.22.P00015843 | 4.700 | 2.233 | 4.700 | SPAG5-AS1       | Homo sapiens SPAG5 antisense RNA 1 (SPAG5-AS1), long non-coding RNA [NR.040012]   |
| A.23.P101246   | 4.699 | 2.232 | 4.699 | RSFH1L          | Homo sapiens V-set and immunoglobulin domain containing 10 like (RSFH1L), mRNA [NM.00163922]  |
| A.23.P291553   | 4.689 | 2.232 | 4.689 | RSFH1L          | Homo sapiens V-set and immunoglobulin domain containing 10 like (RSFH1L), mRNA [NM.00163922]  |
| A.22.P0007289  | 4.689 | 2.228 | 4.689 | hsc-ZDHHC5-1    | LINC0214, lincRNA (hsc-ZDHHC5-1), lincRNA [hsc-ZDHHC5-1.1]  |
| A.22.P0007285  | 4.685 | 2.228 | 4.685 | hsc-ANKK1A-1    | Homo sapiens mRNA, cDNA DKFZ688E182 (from clone DKFZ688E182) [BX644812]   |
| A.23.P232674   | 4.683 | 2.224 | 4.683 | MYX2            | Homo sapiens myx, 2 (MYX2), mRNA [NM.00102290]  |
| A.23.P424711   | 4.683 | 2.224 | 4.683 | MYX2            | Homo sapiens myx, 2 (MYX2), mRNA [NM.00102290]  |
| A.23.P424711   | 4.683 | 2.224 | 4.683 | MYX2            | Homo sapiens myx, 2 (MYX2), mRNA [NM.00102290]  |
| A.23.P424711   | 4.683 | 2.224 | 4.683 | MYX2            | Homo sapiens myx, 2 (MYX2), mRNA [NM.00102290]  |
| A.21.P0006501  | 4.684 | 2.222 | 4.684 | hsc-GPR132-1    | LINC0214, lincRNA (hsc-GPR132-1), lincRNA [hsc-GPR132-1.3]  |
| A.21.P0011843  | 4.684 | 2.221 | 4.684 | GALE            | Homo sapiens LDP-galactase-4-epimerase (GALE), transcript variant 1, mRNA [NM.000403]   |
| A.21.P0011843  | 4.659 | 2.220 | 4.659 | POM5            | phospholipase, 5 [Source:HGNC Symbol:AC092595] [ENS:00000604920]  |
| A.33.P2415092  | 4.658 | 2.220 | 4.658 | CLGN5           | Homo sapiens chloride channel, voltage-sensitive 5 (CLGN5), transcript variant 1, mRNA [NM.001127899]   |
| A.23.P26757    | 4.657 | 2.219 | 4.657 | CNBE2           | Homo sapiens cyclin B2 (CNBE2), mRNA [NM.004701]  |
| A.33.P2326383  | 4.654 | 2.219 | 4.654 | INPP4B          | Homo sapiens inositol polyphosphate-4-phosphatase, type II, 1054Da (INPP4B), transcript variant 1, mRNA [NM.003866]   |
| A.23.P238566   | 4.651 | 2.218 | 4.651 | NR4A3           | Homo sapiens nuclear receptor subfamily 4, group A, member 3 (NR4A3), transcript variant 5, mRNA [NM.173200]  |
| A.33.P2326339  | 4.650 | 2.217 | 4.650 | FEXL18          | Homo sapiens F-box and leucine-rich repeat protein 18 (FEXL18), mRNA [NM.024965]  |
| A.23.P39656    | 4.649 | 2.217 | 4.649 | KLK7            | Homo sapiens kallikrein-related peptidase 7 (KLK7), transcript variant 1, mRNA [NM.005046]  |
| A.24.P153653   | 4.649 | 2.217 | 4.649 | TRIM87          | Homo sapiens tripartite motif containing 37 (TRIM87), transcript variant 2, mRNA [NM.00105207]  |
| A.22.P0003836  | 4.646 | 2.216 | 4.646 | LOC10096423     | Homo sapiens growth arrest-specific 7 (GAS7), transcript variant c, mRNA [NM.201483]  |
| A.24.P27468    | 4.641 | 2.214 | 4.641 | GAS7            | Homo sapiens golgin A7 (GOLGA7), transcript variant 2, mRNA [NM.001022298]  |
| A.24.P26771    | 4.640 | 2.214 | 4.640 | GOLGA7          | Homo sapiens golgin A7 (GOLGA7), transcript variant 2, mRNA [NM.001022298]  |
| A.24.P269139   | 4.635 | 2.212 | 4.635 | SPRKGFP1        | Homo sapiens SPR domain kinase binding protein 1 (SPRKGFP1), transcript variant 2, mRNA [NM.001024666]  |
| A.23.P0003783  | 4.633 | 2.208 | 4.633 | ASP1B           | Homo sapiens anti-aligning function 1B histone deacetylase (ASF1B), mRNA [NM.016134]  |
| A.23.P231138   | 4.618 | 2.207 | 4.618 | CLDN9           | Homo sapiens claudin 9 (CLDN9), mRNA [NM.020882]  |
| A.21.P0006821  | 4.617 | 2.207 | 4.617 | LINC00659       | Homo sapiens long intergenic non-protein coding RNA 659 (LINC00659), transcript variant 1, long non-coding RNA [NR.048224]                                    |
| A.33.P2327613  | 4.616 | 2.207 | 4.616 | HTRID           | Homo sapiens htrid, complete cds [M81689]   |
| A.33.P2420068  | 4.616 | 2.206 | 4.616 | GOLGA7          | Homo sapiens golgin A7 (GOLGA7), transcript variant 2, mRNA [NM.001022298]  |
| A.23.P21392    | 4.615 | 2.206 | 4.615 | WWC1            | Homo sapiens WW and C2 domain containing 1 (WWC1), transcript variant 3, mRNA [NM.015238]   |
| A.33.P2330166  | 4.614 | 2.205 | 4.614 | NUAK2           | Homo sapiens NUAK family, SNF1-like kinase 2 (NUAK2), mRNA [NM.003942]  |
| A.33.P2401647  | 4.609 | 2.205 | 4.609 | PPP1R14A        | Homo sapiens protein phosphatase 1, regulatory inhibitor subunit 14A (PPP1R14A), transcript variant 1, mRNA [NM.032256]                                       |
| A.23.P279818   | 4.606 | 2.203 | 4.606 | WWTR1           | Homo sapiens WW domain containing transcription regulator 1 (WWTR1), transcript variant 1, mRNA [NM.015472]   |
| A.23.P279818   | 4.605 | 2.203 | 4.605 | OSER1           | Homo sapiens oxidative stress responsive serine-rich 1 (OSER1), mRNA [NM.016470]  |
| A.33.P3244856  | 4.604 | 2.203 | 4.604 | NRIP3           | Homo sapiens nuclear receptor interacting protein 3 (NRIP3), mRNA [NM.020645]   |
| A.33.P15956    | 4.599 | 2.201 | 4.599 | ZNF295-AS1      | Homo sapiens ZNF295 antisense RNA 1 (ZNF295-AS1), transcript variant 1, long non-coding RNA [NR.118394]   |
| A.22.P00013571 | 4.599 | 2.201 | 4.599 | DA740059        | DA740059 (N12P7) Homo sapiens cDNA clone NT2P7702269.5, mRNA sequence [DA740059]  |
| A.33.P3362877  | 4.598 | 2.200 | 4.598 | RTN3            | reticulon 3 [Source:HGNC Symbol:AC092596] [ENS:00000338950]   |
| A.22.P00015140 | 4.597 | 2.200 | 4.597 | LOC101921481    | Homo sapiens uncharacterized LOC101921481 (LOC101921481), long non-coding RNA [NR.126338]   |
| A.33.P2360109  | 4.596 | 2.200 | 4.596 | BTB19           | Homo sapiens BTB (POZ) domain containing 19 (BTB19), mRNA [NM.001136537]  |
| A.33.P334923   | 4.591 | 2.198 | 4.591 | BTB19           | Homo sapiens BTB (POZ) domain containing 19 (BTB19), mRNA [NM.001136537]  |
| A.23.P231372   | 4.590 | 2.198 | 4.590 | BTB19           | Homo sapiens BTB (POZ) domain containing 19 (BTB19), mRNA [NM.001136537]  |

|                |       |       |       |    |                        |   |
|----------------|-------|-------|-------|----|------------------------|---|
| A.22.P00008962 | 4.590 | 2.188 | 4.590 | up | linc-UNC93B1-2         | long intergenic non-protein coding RNA 320 [Source:HGNC Symbol;Acc:HGNC:18843] [ENST00000554196]                                    |
| A.22.P00017257 | 4.587 | 2.188 | 4.587 | up | linc-UNC93B1-1         | DBA51D73 RIKEN full-length untruncated human cDNA library. Lysis. Homo sapiens cDNA clone. HJ13035K11.5'. mRNA sequence. [DBA51D73] |
| A.23.P129855   | 4.584 | 2.197 | 4.584 | up | ICAM2                  | Homo sapiens intercellular adhesion molecule 2 (ICAM2), transcript variant 5, mRNA. NM.000873                                       |
| A.33.P3315314  | 4.576 | 2.184 | 4.576 | up | MT1HL1                 | Homo sapiens metallothionein 1H-like 1 (MT1HL1), mRNA. NM.001276887   |
| A.23.P37883    | 4.576 | 2.184 | 4.576 | up | MT1B                   | Homo sapiens metallothionein 1B (MT1B), mRNA. NM.005947   |
| A.33.P3232458  | 4.575 | 2.194 | 4.575 | up | CLIP4                  | Homo sapiens CAP-Gly domain containing linker protein family, member 4 (CLIP4), transcript variant 1, mRNA. NM.024892               |
| A.24.P203000   | 4.575 | 2.184 | 4.575 | up | IL2RB                  | Homo sapiens interleukin 2 receptor, beta (IL2RB), mRNA. NM.000878  |
| A.24.P365180   | 4.575 | 2.194 | 4.575 | up | DSSE1                  | Homo sapiens dermatan sulfate epimerase-like (DSSE1), mRNA. NM.002160   |
| A.22.P00023445 | 4.572 | 2.189 | 4.572 | up | UNC93B1                | Homo sapiens long intergenic non-protein coding RNA 12681 (LINC012681), long non-coding RNA. [NR.125789]                            |
| A.23.P36381    | 4.571 | 2.192 | 4.571 | up | HEI11                  | Homo sapiens neuroepithelial cell transcription 1 (HEI11), transcript variant 1, mRNA. NM.0047160                                   |
| A.33.P35668    | 4.570 | 2.186 | 4.570 | up | SYTL4                  | Homo sapiens syntrophin-like 4 (SYTL4), transcript variant 1, mRNA. NM.003737   |
| A.33.P35669    | 4.569 | 2.186 | 4.569 | up | SYTL5                  | Homo sapiens syntrophin-like 5 (SYTL5), transcript variant 1, mRNA. NM.003738   |
| A.22.P000810   | 4.569 | 2.190 | 4.569 | up | LCG1-013043            | Homo sapiens long intergenic non-protein coding RNA 13043 (LINC013043), long non-coding RNA. [NR.018360]                            |
| A.33.P3314425  | 4.564 | 2.188 | 4.564 | up | CRYM-AS1               | Homo sapiens CRYM antisense RNA 1 (CRYM-AS1), long non-coding RNA. [NR.024675]  |
| A.23.P312000   | 4.560 | 2.188 | 4.560 | up | SCGB2A1                | Homo sapiens secretoglobin, family 2A, member 1 (SCGB2A1), mRNA. NM.002407  |
| A.23.P170649   | 4.557 | 2.185 | 4.557 | up | SESPON                 | Homo sapiens somatomedin B and fibronectin domain, type 1 domain containing (SESPON), mRNA. NM.153225                               |
| A.23.P216556   | 4.548 | 2.188 | 4.548 | up | EPB41L4B               | Homo sapiens erythrocyte membrane protein band 4.1 like 4B (EPB41L4B), transcript variant 1, mRNA. NM.018424                        |
| A.23.P263834   | 4.547 | 2.185 | 4.547 | up | RHCE                   | Homo sapiens Rh blood group, CcEe antigens (RHCE), transcript variant 1, mRNA. NM.020495  |
| A.23.P422667   | 4.546 | 2.184 | 4.546 | up | TRIM17                 | Homo sapiens tripartite motif containing 17 (TRIM17), transcript variant 1, mRNA. NM.016102   |
| A.24.P263721   | 4.541 | 2.181 | 4.541 | up | SLC6A14                | Homo sapiens solute carrier family 6 (emion acid transporter), member 14 (SLC6A14), mRNA. NM.007231                                 |
| A.22.P00003686 | 4.535 | 2.181 | 4.535 | up | LOC225187              | HES17_HES3_SAGE Homo sapiens cDNA, mRNA sequence. [DN694927]  |
| A.33.P3378805  | 4.535 | 2.181 | 4.535 | up | LOC225187              | Iduronate 2-sulfatase pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:5390] [ENST00000324789]   |
| A.33.P3347187  | 4.530 | 2.179 | 4.530 | up | NR1D1                  | Homo sapiens nuclear receptor subfamily 1, group D, member 1 (NR1D1), mRNA. NM.021724   |
| A.24.P250277   | 4.528 | 2.178 | 4.528 | up | FRBP15                 | Homo sapiens FKBP6 binding protein 15, 1330da, (FRBP15), mRNA. NM.015258  |
| A.24.P224149   | 4.527 | 2.178 | 4.527 | up | SYTL4                  | Homo sapiens syntrophin-like 4 (SYTL4), transcript variant 1, mRNA. NM.003737   |
| A.24.P172337   | 4.524 | 2.178 | 4.524 | up | PCAD-AS1               | Homo sapiens palmitoyl-CoA dioxygenase antisense 1 (PCAD-AS1), long non-coding RNA. [NR.121601]                                     |
| A.22.P00023141 | 4.516 | 2.179 | 4.516 | up | SYTL4                  | Homo sapiens syntrophin-like 4 (SYTL4), transcript variant 1, mRNA. NM.003737   |
| A.23.P35671    | 4.515 | 2.178 | 4.515 | up | SYTL5                  | Homo sapiens syntrophin-like 5 (SYTL5), transcript variant 1, mRNA. NM.003738   |
| A.23.P41344    | 4.509 | 2.172 | 4.509 | up | HEG2                   | Homo sapiens heparanase 2 (HEG2), mRNA. NM.001292   |
| A.23.P3081     | 4.508 | 2.172 | 4.508 | up | DYSG1                  | Homo sapiens dyflocin (DYSG1), transcript variant 8, mRNA. NM.007186  |
| A.21.P0011612  | 4.507 | 2.172 | 4.507 | up | DNM4H17                | Homo sapiens dactin, axonemal heavy chain 17 (DNM4H17), mRNA. NM.126238   |
| A.22.P0004659  | 4.504 | 2.171 | 4.504 | up | linc-5884.F1.NH.MGC.16 | linc-5884.F1.NH.MGC.16 Homo sapiens cDNA clone IMAGE468103957, mRNA sequence. [BX111564]  |
| A.22.P00015665 | 4.504 | 2.171 | 4.504 | up | linc-SYCE1L-1          | 60245884.F1.NH.MGC.16 Homo sapiens cDNA clone IMAGE.4581035.5', mRNA sequence. [BG396900]   |
| A.33.P3233980  | 4.501 | 2.170 | 4.501 | up | DHRF11                 | PDZ domain containing 1 (SDR family), member 11 [Source:HGNC Symbol;Acc:HGNC:28693] [ENST00000610443]                               |
| A.33.P3238515  | 4.500 | 2.170 | 4.500 | up | PDX2                   | PDZ domain containing 2 [Source:HGNC Symbol;Acc:HGNC:18488] [ENST00000397559]   |
| A.22.P0009454  | 4.498 | 2.169 | 4.498 | up | LOC101827888           | Homo sapiens uncharacterized LOC101827888 (LOC101827888), long non-coding RNA. [NR.110144]  |
| A.24.P398888   | 4.493 | 2.168 | 4.493 | up | CENPM                  | centromere protein M [Source:HGNC Symbol;Acc:HGNC:18392] [ENST00000386437]  |
| A.23.P117851   | 4.490 | 2.167 | 4.490 | up | CFPLX3                 | Homo sapiens complexin 3 (CFPLX3), mRNA. NM.001000095   |
| A.23.P56293    | 4.490 | 2.167 | 4.490 | up | UBE2D3                 | Homo sapiens ubiquitin-conjugating enzyme E2D 3 (UBE2D3), transcript variant 2, mRNA. NM.181888                                     |
| A.22.P00056489 | 4.487 | 2.166 | 4.487 | up | NR1D2                  | Homo sapiens nuclear receptor subfamily 1, group D, member 2 (NR1D2), transcript variant 3, non-coding RNA. [NR.110524]             |
| A.33.P3270429  | 4.486 | 2.166 | 4.486 | up | MAP3K7DL               | Homo sapiens MAP3K7 C-terminal like (MAP3K7CL), transcript variant 1, mRNA. NM.020152   |
| A.24.P57277    | 4.486 | 2.164 | 4.486 | up | ABCC4                  | Homo sapiens ATP-binding cassette, sub-family G (WHITE), member 4 (ABCC4), transcript variant 1, mRNA. NM.022166                    |
| A.24.P58626    | 4.482 | 2.164 | 4.482 | up | ABCC4                  | Homo sapiens ATP-binding cassette, sub-family G (WHITE), member 4 (ABCC4), transcript variant 1, mRNA. NM.022166                    |
| A.33.P326589   | 4.482 | 2.163 | 4.482 | up | FMN12C                 | Homo sapiens fatty acid sequence cluster 12C (FMN12C), transcript variant 3, mRNA. NM.001917031                                     |
| A.19.P00031564 | 4.471 | 2.161 | 4.471 | up | LOC635712              | Homo sapiens long intergenic non-protein coding RNA 122 (LINC0122), long non-coding RNA. [NR.034179]                                |
| A.23.P108844   | 4.470 | 2.160 | 4.470 | up | MT2A                   | Homo sapiens moreletin 2A (MT2A), mRNA. NM.005953   |
| A.22.P0020424  | 4.469 | 2.160 | 4.469 | up | linc-PRX1-1            | BX103274.Sores testis.NHT.Homo sapiens cDNA clone IMAGE688810450, mRNA sequence. [BX103274]   |
| A.23.P96823    | 4.465 | 2.159 | 4.465 | up | OPN1MW                 | Homo sapiens opsin 1, cone pigment, medium-wave-sensitive (OPN1MW), mRNA. NM.000513   |
| A.23.P26124    | 4.460 | 2.157 | 4.460 | up | RORA                   | Homo sapiens RAR-related orphan receptor A (RORA), transcript variant 2, mRNA. NM.134260  |
| A.33.P3403075  | 4.460 | 2.157 | 4.460 | up | PRR11                  | Homo sapiens proline rich 11 (PRR11), mRNA. NM.0183094  |
| A.32.P183804   | 4.460 | 2.157 | 4.460 | up | SHF                    | Homo sapiens Src homology 2 domain containing F (SHF), transcript variant 2, mRNA. NM.138356  |
| A.33.P3411035  | 4.459 | 2.157 | 4.459 | up | SLIT1                  | Homo sapiens slit, homolog 1 (Drosophila), (SLIT1), mRNA. NM.003081   |
| A.22.P0001282  | 4.458 | 2.156 | 4.458 | up | LOC282299              | Homo sapiens uncharacterized LOC282299 (LOC282299), long non-coding RNA. [NR.036878]  |
| A.24.P137592   | 4.458 | 2.156 | 4.458 | up | DEPND3                 | Homo sapiens ubiquitin specific peptidase 33 (USP53), mRNA. NM.018060   |
| A.33.P332130   | 4.453 | 2.155 | 4.453 | up | DEPND3                 | DEPND3 domain containing 3 [Source:HGNC Symbol;Acc:HGNC:29134] [ENST00000520482]  |
| A.23.P27917    | 4.451 | 2.154 | 4.451 | up | OR10H1                 | Homo sapiens olfactory receptor family 10, subfamily H, member 1 (OR10H1), mRNA. NM.013940  |
| A.33.P372927   | 4.449 | 2.154 | 4.449 | up | COBL                   | Homo sapiens cordon-bleu WIP repeat protein (COBL), transcript variant 2, mRNA. NM.015198   |
| A.21.P0000469  | 4.438 | 2.154 | 4.438 | up | linc-IDS-3             | LINC024 lineRNA (linc-IDS-3), lincRNA (linc-IDS-3)  |
| A.23.P250302   | 4.437 | 2.150 | 4.437 | up | CCGR3                  | Homo sapiens chemokine C-C motif receptor 3 (CCGR3), transcript variant 1, mRNA. NM.001837  |
| A.23.P250302   | 4.436 | 2.148 | 4.436 | up | CCGR3                  | LINC0247ED.Homo sapiens long intergenic non-protein coding RNA 27884 (LINC0247ED), mRNA. [NR.244659]                                |
| A.22.P00076289 | 4.436 | 2.148 | 4.436 | up | BRAD3                  | BRAD3.Homo sapiens long intergenic non-protein coding RNA 27884 (LINC0247ED), mRNA. [NR.244659]                                     |
| A.21.P0011636  | 4.432 | 2.147 | 4.432 | up | LOC1013814.6.1-4       | LOC1013814.6.1-4 Homo sapiens long intergenic non-protein coding RNA 13814 (LINC013814), long non-coding RNA. [NR.024641]           |
| A.33.P3318439  | 4.423 | 2.145 | 4.423 | up | RNF212                 | Homo sapiens ring finger protein 212 (RNF212), transcript variant 1, mRNA. NM.001131034   |
| A.33.P328844   | 4.423 | 2.145 | 4.423 | up | IL1R                   | Homo sapiens interleukin 1 receptor, (IL1R), transcript variant 1, mRNA. NM.000956  |
| A.23.P46412    | 4.420 | 2.144 | 4.420 | up | SCN1D                  | Homo sapiens sodium channel, non voltage-gated 1, delta subunit (SCN1D), transcript variant 1, mRNA. NM.001130413                   |
| A.21.P0001407  | 4.420 | 2.144 | 4.420 | up | linc-MFSD4-2           | LINC024 lineRNA (linc-MFSD4-2), lincRNA. [linc-MFSD4-2]   |
| A.23.P253123   | 4.420 | 2.144 | 4.420 | up | VGLL1                  | Homo sapiens vestigial-like family member 1 (VGLL1), mRNA. NM.016287  |
| A.23.P261820   | 4.419 | 2.144 | 4.419 | up | AT12ZA                 | Homo sapiens atrophagy-related 2A (AT2ZA), mRNA. NM.015104  |
| A.23.P378174   | 4.418 | 2.143 | 4.418 | up | RNASEB                 | Homo sapiens ribonuclease, RNase A family, 8 (RNASEB), mRNA. NM.138331  |
| A.19.P00083957 | 4.412 | 2.141 | 4.412 | up | linc-DPP4-1            | long intergenic non-coding RNA 385 [Source:HGNC Symbol;Acc:HGNC:42713] [ENST00000430044]  |
| A.23.P213349   | 4.410 | 2.141 | 4.410 | up | IL2RA1                 | G56A81.HUMAN (G56A81) TIR1 protein (fragment), partial (10%) [THG2891455]   |
| A.23.P143173   | 4.409 | 2.141 | 4.409 | up | SLA2                   | Homo sapiens Sre-like adalder 2 (SLA2), transcript variant 1, mRNA. NM.003214   |
| A.23.P211141   | 4.408 | 2.140 | 4.408 | up | DSCAM                  | Homo sapiens Down syndrome cell adhesion molecule (DSCAM), transcript variant 1, mRNA. NM.002528                                    |
| A.24.P316430   | 4.407 | 2.140 | 4.407 | up | NTSE                   | Homo sapiens 5'-nucleotidase, ecto (CD73) (NTSE), transcript variant 1, mRNA. NM.002528   |
| A.22.P00015300 | 4.405 | 2.139 | 4.405 | up | LOC101821817           | Homo sapiens uncharacterized LOC101821817 (LOC101821817), transcript variant 1, long non-coding RNA. [NR.118851]                    |
| A.23.P7434     | 4.400 | 2.137 | 4.400 | up | RNF2                   | Homo sapiens RNF2, NCOB1 histone core complex component (RNF2), transcript variant 1, mRNA. NM.146607                               |
| A.23.P401181   | 4.398 | 2.138 | 4.398 | up | LOC101824710           | Homo sapiens wingless-type (WNT) V integration site (wnt) member 1 (WNT1), mRNA. NM.146607  |
| A.22.P30014460 | 4.398 | 2.138 | 4.398 | up | LOC101824710           | Homo sapiens uncharacterized LOC101824710 (LOC101824710), long non-coding RNA. [NR.123817]  |









|                |       |       |       |  |
|----------------|-------|-------|-------|--|
| A.33.P24037.08 | 3.767 | 1.913 | 3.767 | Homo sapiens telkin 2 (TEK12), mRNA [NM.014466]  |
| A.33.P24055    | 3.765 | 1.913 | 3.765 | Homo sapiens lipocalin 2 (LCN2), mRNA [NM.005984]  |
| A.23.P18847    | 3.763 | 1.912 | 3.763 | Homo sapiens apolipoprotein B mRNA editing enzyme, catalytic subunit-like 3B (APOBEC3B), transcript variant 1, mRNA [NM.004800]              |
| A.24.P86027    | 3.758 | 1.910 | 3.758 | Homo sapiens cDNA FLJ18047 (AK311005)  |
| A.22.P0001727  | 3.757 | 1.909 | 3.757 | Homo sapiens puv-like RNA-mediated gene silencing 2 (PWI2), transcript variant 2, mRNA [NM.018068]   |
| A.23.P253074   | 3.757 | 1.909 | 3.757 | Homo sapiens ubiquitin-conjugating enzyme E2D 1 (UBE2D1), transcript variant 1, mRNA [NM.003338]   |
| A.24.P18327    | 3.755 | 1.908 | 3.755 | Homo sapiens ATGAP with SH3 domain, ankyrin repeat and PH domain 2 (ASAP2), transcript variant 1, mRNA [NM.003887]                           |
| A.24.P382540   | 3.754 | 1.908 | 3.754 | Homo sapiens ethylmalonic encephalopathy 1 (E1E1), mRNA [NM.014297]  |
| A.23.P24294    | 3.752 | 1.908 | 3.752 | Homo sapiens ribosomal RNA processing 7 homolog A (S. cerevisiae) (RPP7A), mRNA [NM.015103]  |
| A.23.P29331    | 3.752 | 1.907 | 3.752 | Homo sapiens MPO33 like gene (non-protein coding) (MPO33LG), long non-coding RNA [NR.024607]   |
| A.23.P29332    | 3.748 | 1.907 | 3.748 | Homo sapiens ADP-ribosyl transferase subunit 1 (ARTS1), transcript variant 1, mRNA [NM.015162]   |
| A.23.P29333    | 3.748 | 1.907 | 3.748 | Homo sapiens ADP-ribosyl transferase subunit 1 (ARTS1), transcript variant 2, mRNA [NM.015162]   |
| A.23.P29334    | 3.745 | 1.906 | 3.745 | Homo sapiens procureur enzyme factor 1B (POF1B), mRNA [NM.016356]  |
| A.23.P29335    | 3.745 | 1.906 | 3.745 | Homo sapiens procureur enzyme factor 1B (POF1B), mRNA [NM.016356]  |
| A.24.P240815   | 3.738 | 1.902 | 3.738 | Homo sapiens epithelial membrane protein 3 (EMP3), mRNA [NM.001423]  |
| A.23.P11882    | 3.736 | 1.902 | 3.736 | Homo sapiens Raf GEF with PH domain and SH3 binding motif 1 (RALGPS1), transcript variant 1, mRNA [NM.014636]                                |
| A.32.P221991   | 3.736 | 1.901 | 3.736 | Homo sapiens cell adhesion molecule 4 (CADM4), mRNA [NM.145296]  |
| A.33.P25064    | 3.736 | 1.901 | 3.736 | Homo sapiens cell adhesion molecule 4 (CADM4), mRNA [NM.145296]  |
| A.33.P231372   | 3.733 | 1.900 | 3.733 | Homo sapiens SIRT-ROBO Pko GTPase activating protein 2 (SROGAP2), transcript variant 4, mRNA [NM.00190952]                                   |
| A.33.P272930   | 3.728 | 1.898 | 3.728 | Zinc finger protein 28 (ZNF28), Source:HGNC Symbol:AcscHGNC:13073; [ENS:0000464468]  |
| A.33.P2411807  | 3.726 | 1.897 | 3.726 | Homo sapiens fibroblast growth factor 5 (FGF5), transcript variant 2, mRNA [NM.031143]   |
| A.23.P79518    | 3.724 | 1.897 | 3.724 | Homo sapiens interleukin 1, beta (IL1B), mRNA [NM.000278]  |
| A.23.P434547   | 3.723 | 1.896 | 3.723 | Homo sapiens interectin 2 (ITSN2), transcript variant 2, mRNA [NM.147152]  |
| A.23.P162719   | 3.722 | 1.896 | 3.722 | Homo sapiens diaphanous-related formin 3 (DIAPH3), transcript variant 2, mRNA [NM.030952]  |
| A.22.P0000254  | 3.722 | 1.896 | 3.722 | Homo sapiens MYO16 antisense RNA 1 (MYO16-AS1), long non-coding RNA [NR.047700]  |
| A.22.P00020447 | 3.720 | 1.895 | 3.720 | ab5005.7 Stratagene Link carcinoma 837218 Homo sapiens cDNA clone IMAGE44289 5', mRNA sequence [A692449]                                     |
| A.24.P119259   | 3.720 | 1.895 | 3.720 | Homo sapiens basic leucine zipper nuclear factor 7 (BLZF1), mRNA [NM.003686]   |
| A.24.P284188   | 3.719 | 1.895 | 3.719 | Homo sapiens g9orf45 family, member M (GOLGA8M), mRNA [NM.00722468]  |
| A.13.P282093   | 3.717 | 1.894 | 3.717 | Homo sapiens integrin non-protein coding RNA 859 (intnc859), long non-coding RNA [NR.023139]   |
| A.13.P282094   | 3.716 | 1.894 | 3.716 | Homo sapiens integrin non-protein coding RNA 859 (intnc859), long non-coding RNA [NR.023139]   |
| A.33.P2241051  | 3.716 | 1.894 | 3.716 | Homo sapiens integrin non-protein coding RNA 859 (intnc859), long non-coding RNA [NR.023139]   |
| A.22.P0003251  | 3.713 | 1.892 | 3.713 | Homo sapiens long interspersed non-protein coding RNA 835 (LINC00835), transcript variant 2, long non-coding RNA [NR.015414]                 |
| A.21.P0003155  | 3.712 | 1.892 | 3.712 | Homo sapiens long interspersed non-protein coding RNA 835 (LINC00835), transcript variant 1, mRNA [NM.032776]                                |
| A.23.P242171   | 3.711 | 1.891 | 3.711 | Homo sapiens discoidin, CUB and LCEL domain containing 2 (DCBLD2), mRNA [NM.086927]  |
| A.24.P251061   | 3.708 | 1.891 | 3.708 | DA40949 BRAWH3 Homo sapiens clone BRAWH3038921.5, mRNA sequence [D4240949]   |
| A.22.P0029653  | 3.708 | 1.891 | 3.708 | Homo sapiens excision repair cross-complement protein 1 (ERCC1), transcript variant 1, mRNA [NM.020200]                                      |
| A.33.P2328126  | 3.705 | 1.889 | 3.705 | Homo sapiens EAI1-associated protein 2 (EAIAP2), transcript variant 2, mRNA [NM.017461]  |
| A.23.P318836   | 3.703 | 1.888 | 3.703 | Homo sapiens ankyrin repeat domain 30B pseudogene 2 (ANKRD30BP2), non-coding RNA [NR.028188]   |
| A.24.P917819   | 3.702 | 1.888 | 3.702 | Homo sapiens cDNA FLJ38242.6b, clone THYMU001727, [AK093556]   |
| A.33.P257553   | 3.702 | 1.888 | 3.702 | LINCpelia lineRNA (linc-NEFM-1), lincRNA [linc-NEFM-1]   |
| A.21.P0006433  | 3.702 | 1.888 | 3.702 | Homo sapiens slit homolog 2 (Drosophila) (SLIT2), transcript variant 1, mRNA [NM.064787]   |
| A.23.P144348   | 3.701 | 1.888 | 3.701 | Homo sapiens ADAMTS-like 4 (ADAMTSL4), transcript variant 2, mRNA [NM.029608]  |
| A.33.P338063   | 3.700 | 1.887 | 3.700 | Homo sapiens S100 calcium binding protein 2 (S1002), mRNA [NM.130172]  |
| A.24.P27236    | 3.699 | 1.887 | 3.699 | Homo sapiens myosin VI (MYO6), mRNA [NM.00180467]  |
| A.33.P337979   | 3.698 | 1.887 | 3.698 | Homo sapiens ADP-ribosyl transferase 4 (Oromock) (ART4), mRNA [NM.021071]  |
| A.23.P280446   | 3.694 | 1.886 | 3.694 | LINCpelia lineRNA (linc-AC038844.1), lincRNA [linc-AC038844.1-1]   |
| A.21.P0003132  | 3.693 | 1.885 | 3.693 | PREDICTED: Homo sapiens sirt-like RNA-mediated gene silencing 2 (PWI2), transcript variant X2, mRNA [XM.006233551]                           |
| A.33.P2310276  | 3.693 | 1.885 | 3.693 | Homo sapiens transient receptor potential cation channel subfamily M, member 6 (TRPM6), transcript variant 4, mRNA [NM.0261662]              |
| A.24.P418463   | 3.692 | 1.884 | 3.692 | Homo sapiens transmembrane and coiled-coil domain family 3 (TMCC3), transcript variant 1, mRNA [NM.020686]                                   |
| A.24.P265933   | 3.689 | 1.883 | 3.689 | LINCpelia lineRNA (linc-MK01JP-1), lincRNA [linc-MK01JP-1-3]   |
| A.21.P0002676  | 3.689 | 1.883 | 3.689 | Homo sapiens uncharacterized LOC102724096 (LOC102724096), long non-coding RNA [NR.128374]  |
| A.22.P0000529  | 3.688 | 1.883 | 3.688 | Homo sapiens uncharacterized LOC102724096 (LOC102724096), long non-coding RNA [NR.128374]  |
| A.33.P3368571  | 3.687 | 1.882 | 3.687 | Homo sapiens glutathione peroxidase 3 (GPX3), mRNA [NM.002084]   |
| A.21.P0014514  | 3.685 | 1.882 | 3.685 | HMO4E-1-G12 RHNC (Human Normal Cornea), Homo sapiens cDNA, mRNA sequence [BC927974]  |
| A.23.P114603   | 3.682 | 1.880 | 3.682 | Homo sapiens heat shock 70kDa protein 6 (HSP70B7) (HSPA6), mRNA [NM.002155]  |
| A.33.P3397133  | 3.682 | 1.880 | 3.682 | Homo sapiens family with sequence similarity 154, member B (FAM154B), mRNA [NM.00108226]   |
| A.22.P00017676 | 3.681 | 1.880 | 3.681 | Homo sapiens long, intergenic non-protein coding RNA 320 (LINC00520), transcript variant 1, long non-coding RNA [NR.026796]                  |
| A.22.P00008960 | 3.680 | 1.880 | 3.680 | Homo sapiens colony stimulating factor 1 receptor (CSF1R), transcript variant 1, mRNA [NM.005211]  |
| A.23.P110791   | 3.680 | 1.880 | 3.680 | Homo sapiens uncharacterized LOC102729931 (LOC102729931), long non-coding RNA [NR.033829]  |
| A.33.P277883   | 3.677 | 1.879 | 3.677 | Homo sapiens uncharacterized LOC102729931 (LOC102729931), long non-coding RNA [NR.033829]  |
| A.33.P2419621  | 3.677 | 1.878 | 3.677 | Homo sapiens RPL10P with SH3 domain, ankyrin repeat and PH domain 1 (ASAP1), transcript variant 2, mRNA [NM.001247986]                       |
| A.33.P2926861  | 3.675 | 1.878 | 3.675 | LINCpelia lineRNA (linc-TE28-AS1), lincRNA [linc-TE28-AS1-9]   |
| A.22.P0003924  | 3.672 | 1.877 | 3.672 | Homo sapiens calcitriol receptor-related channel, modifier subfamily S, member 1 (CCRS1), mRNA [NM.002241]                                   |
| A.23.P231846   | 3.669 | 1.875 | 3.669 | Homo sapiens S43-domain, GRR2-like 2 (SRRGL2), mRNA [NM.003026]  |
| A.23.P188351   | 3.667 | 1.875 | 3.667 | Homo sapiens cDNA FL44789.6b, clone BRAC6E038760, JAK126743  |
| A.33.P2376112  | 3.666 | 1.874 | 3.666 | Homo sapiens epoxide hydrolase 4 (EPHX4), mRNA [NM.173567]   |
| A.23.P24888    | 3.666 | 1.874 | 3.666 | Homo sapiens epoxide hydrolase 4 (EPHX4), mRNA [NM.173567]   |
| A.21.P0010016  | 3.665 | 1.874 | 3.665 | Homo sapiens fucosyltransferase 3 (galactoside 3(4)-L-fucosyltransferase, Lewis blood group) (FUT3), transcript variant 1, mRNA [NM.0001149] |
| A.21.P0010041  | 3.665 | 1.874 | 3.665 | Homo sapiens long, intergenic non-protein coding RNA 1430 (LINC01430), long non-coding RNA [NR.109493]                                       |
| A.22.P00014057 | 3.665 | 1.874 | 3.665 | Homo sapiens calcitriol-like EF-hand protein 2 (CHP2), mRNA [NM.022097]  |
| A.23.P248463   | 3.665 | 1.874 | 3.665 | Homo sapiens small integral membrane protein 5 (SNIM5), transcript variant 1, mRNA [NM.001162895]  |
| A.33.P324057   | 3.663 | 1.873 | 3.663 | Homo sapiens RAS protein activator like 2 (RASAL2), transcript variant 2, mRNA [NM.170662]   |
| A.23.P502747   | 3.659 | 1.872 | 3.659 | Homo sapiens uncharacterized LOC101927418 (LOC101927418), long non-coding RNA [NR.110056]  |
| A.22.P0000886  | 3.659 | 1.871 | 3.659 | Homo sapiens family with sequence similarity 71, member E2 (FAM71E2), mRNA [NM.001145402]  |
| A.24.P249607   | 3.659 | 1.871 | 3.659 | Homo sapiens cDNA FL40934.6b, clone TEST2047824 (AK097893)   |
| A.33.P368878   | 3.658 | 1.871 | 3.658 | Homo sapiens chondroitin sulfate N-acetylglucosaminyltransferase 1 (CSGALNACT1), transcript variant 2, mRNA [NM.018371]                      |
| A.23.P136835   | 3.658 | 1.870 | 3.658 | Homo sapiens excision repair cross-complement protein 1 (ERCC1), transcript variant 1, mRNA [NM.022001]                                      |
| A.33.P339537   | 3.656 | 1.870 | 3.656 | Homo sapiens RAB domain containing 2B (RAB29B), mRNA [NM.00119498]   |
| A.33.P291789   | 3.655 | 1.870 | 3.655 |  |





|                |                |       |       |            |   |
|----------------|----------------|-------|-------|------------|---|
| A.21.P0009216  | inc-PFAS-1     | 3.533 | 1.821 | inc-PFAS-1 | LNCipedia lincRNA (inc-PFAS-1), lincRNA (inc-PFAS-1)  |
| A.23.P148071   | ZDHHC9         | 3.531 | 1.820 | up         | Homo sapiens zinc finger, DHHC-type containing 9 (ZDHHC9), transcript variant 1, mRNA (NM_016032)                               |
| A.24.P280702   | CBX302         | 3.531 | 1.820 | up         | Homo sapiens CBX302 molecule (CBX302), transcript variant 1, mRNA (NM_014880)   |
| A.33.P3387831  | CENPM          | 3.528 | 1.819 | up         | centromere protein M (Source:HGNC Symbol:ACEHGNC:18392) [ENST00000492338]   |
| A.22.P00003932 | GFAR3          | 3.528 | 1.819 | up         | Homo sapiens CASP8 and FADD-like apoptosis regulator (GFAR), transcript variant 8, mRNA (NM_001202519)                          |
| A.33.P3321833  | IGFAR3         | 3.528 | 1.819 | up         | Homo sapiens IGF1 motif containing GTPase activating protein 3 (IGFAR3), mRNA (NM_178239)                                       |
| A.24.P295010   | SERPINE9       | 3.527 | 1.818 | up         | Homo sapiens serpin peptidase inhibitor, club B (ovabumin), member 9 (SERPINE9), mRNA (NM_004195)                               |
| A.23.P242077   | CIorf454       | 3.527 | 1.818 | up         | Homo sapiens chromosome 10 open reading frame 54 (CIorf454), mRNA (NM_022153)   |
| A.23.P215060   | PODXL          | 3.524 | 1.817 | up         | Homo sapiens podocalyxin-like (PODXL), transcript variant 1, mRNA (NM_001018111)  |
| A.22.P0000823  |                | 3.520 | 1.815 | up         |   |
| A.23.P25061070 |                | 3.518 | 1.814 | up         |   |
| A.33.P3326671  |                | 3.518 | 1.814 | up         |   |
| A.22.P00019488 | inc-MXL1-2     | 3.518 | 1.814 | up         | Homo sapiens tumor protein p53 inducible protein 3 (TP53I3), transcript variant 1, mRNA (NM_024881)                             |
| A.33.P25081010 | IME18A         | 3.514 | 1.813 | up         | GC045633.ACB03, chromosome protein 63A (IME18A), mRNA (NM_014888)   |
| A.33.P25081010 | IME18A         | 3.514 | 1.813 | up         | Homo sapiens transmembrane protein 63A (IME18A), mRNA (NM_014888)   |
| A.33.P25081010 | IME18A         | 3.512 | 1.812 | up         | epidermal growth factor receptor pathway substrate 15 pseudogene 1 (Source:HGNC Symbol:ACEHGNC:18186) [ENST00000459891]         |
| A.33.P2179803  | TMS6F1         | 3.512 | 1.812 | up         | Homo sapiens transmembrane 6 superfamily member 1 (TMS6F1), transcript variant 1, mRNA (NM_023003)                              |
| A.33.P2179803  | TMS6F1         | 3.510 | 1.811 | up         | Homo sapiens tripartite motif containing 16-like (TRIM16L), mRNA (NM_001037330)   |
| A.33.P3346688  | TRIM16L        | 3.509 | 1.811 | up         | hepat shock 70kDa protein 6 (Source:HGNC Symbol:ACEHGNC:9241) [ENST00000927383]   |
| A.24.P2509272  | PTGS2          | 3.505 | 1.809 | up         | Homo sapiens prostaglandin-endoperoxide synthase 2, cyclooxygenase-2 (PTGS2), mRNA (NM_006883)                                  |
| A.33.P2509272  | PTGS2          | 3.504 | 1.809 | up         | casein kinase 1, epsilon (Source:HGNC Symbol:ACEHGNC:2652) [ENST00000403904]  |
| A.23.P207536   | SH3D21         | 3.502 | 1.808 | up         | SH3 domain containing 21 (Source:HGNC Symbol:ACEHGNC:26236) [ENST00000480946]   |
| A.23.P161759   | HHIP           | 3.501 | 1.808 | up         | Homo sapiens hedgehog interacting protein (HHIP), mRNA (NM_022475)  |
| A.23.P163467   | CIorf459       | 3.499 | 1.807 | up         | Homo sapiens chromosome 19 open reading frame 52 (CIorf459), mRNA (NM_207380)   |
| A.32.P214178   | FKBP7A         | 3.498 | 1.806 | up         | Homo sapiens FK506 binding protein 7A, 120kD, (FKBP7A), transcript variant 2, mRNA (NM_054014)                                  |
| A.24.P100011   | PPP2R2A-1      | 3.494 | 1.805 | up         | LNCipedia lincRNA (inc-PPP2R2A-1), lincRNA (inc-PPP2R2A-1)  |
| A.22.P00027219 | PPP2R2A        | 3.494 | 1.805 | up         | Homo sapiens inositol, family member K (IPK), mRNA (NM_001069593)   |
| A.33.P326210   | PPP2R2A        | 3.492 | 1.804 | up         | Homo sapiens inositol, family member K protein coding sequence (PPP2R2A), transcript variant 1, long non-coding RNA (NR_121612) |
| A.33.P326210   | PPP2R2A        | 3.492 | 1.804 | up         | Homo sapiens inositol, family member K protein coding sequence (PPP2R2A), transcript variant 1, long non-coding RNA (NR_121612) |
| A.34.P4100117  | POU1F1         | 3.491 | 1.803 | up         | Homo sapiens POU domain, class 1, transcription factor 1 (POU1F1), mRNA (NM_001774008)  |
| A.21.P00011560 | U2AFK1         | 3.489 | 1.803 | up         | Homo sapiens uncharacterized LOC400721 (U2AFK1), long non-coding RNA (NR_038985)  |
| A.22.P00018341 | ZRANB1         | 3.488 | 1.802 | up         | Homo sapiens zinc finger, RAN-binding domain containing 1 (ZRANB1), mRNA (NM_017380)  |
| A.22.P00022660 | STAR1B-AS      | 3.482 | 1.800 | up         | Homo sapiens STAR1B, antisense RNA (STAR1B-AS), long non-coding RNA (NR_046633)   |
| A.23.P137665   | CH3L1          | 3.481 | 1.800 | up         | Homo sapiens chitinase 3-like 1 (chitinase 4/viscoperin-39) (CH3L1), mRNA (NM_0012176)  |
| A.24.P283901   | ADAM15I7       | 3.480 | 1.799 | up         | ADAM metalloproteinase with thrombospondin type 1 motif, 17 (Source:HGNC Symbol:ACEHGNC:17109) [ENST00000378898]                |
| A.33.P23062626 | inc-ATP13A4-2  | 3.480 | 1.799 | up         | LNCipedia lincRNA (inc-ATP13A4-2), lincRNA (inc-ATP13A4-2)  |
| A.23.P137896   | OXCT2          | 3.479 | 1.799 | up         | Homo sapiens 3-oxoacid CoA transferase 2 (OXCT2), mRNA (NM_022120)  |
| A.23.P137896   | DEFB12B        | 3.478 | 1.798 | up         | Homo sapiens defensin, beta 129 (DEFB129), mRNA (NM_080883)   |
| A.23.P102694   | inc-NYX-1      | 3.477 | 1.798 | up         | LNCipedia lincRNA (inc-NYX-1), lincRNA (inc-NYX-1)  |
| A.21.P0012807  | XLOC 017035    | 3.475 | 1.797 | up         | BROAD Institute lincRNA XLOC 017035, lincRNA (XLOC 017035)  |
| A.22.P00010032 |                | 3.474 | 1.797 | up         |   |
| A.23.P207954   | COL4A2         | 3.473 | 1.796 | up         | Homo sapiens chemokine (C-C motif) ligand 4-like 2 (COL4A2), transcript variant 2, mRNA (NM_001291470)                          |
| A.23.P105652   | H1             | 3.473 | 1.796 | up         | Homo sapiens hydroxyproline isomerase (putative) (H1), transcript variant 1, mRNA (NM_031207)                                   |
| A.22.P0000208  | LOC100208      | 3.472 | 1.796 | up         | LOC100208, non-coding RNA (LOC100208), transcript variant 1, long non-coding RNA (NR_121613)                                    |
| A.21.P0014675  | inc-ARHGAP28-4 | 3.471 | 1.795 | up         | LNCipedia lincRNA (inc-ARHGAP28-4), lincRNA (inc-ARHGAP28-4)  |
| A.22.P0000687  | OSER1-AS1      | 3.468 | 1.794 | up         | Homo sapiens OSER1 antisense RNA 1 (head to head) (OSER1-AS1), transcript variant 1, long non-coding RNA (NR_038937)            |
| A.21.P00041987 |                | 3.467 | 1.794 | up         |   |
| A.21.P0006151  | inc-EXO2-8     | 3.463 | 1.792 | up         | LNCipedia lincRNA (inc-EXO2-8), lincRNA (inc-EXO2-8)  |
| A.23.P283920   | SMCO2          | 3.461 | 1.791 | up         | Homo sapiens single-pass membrane protein with coiled-coil domains 2 (SMCO2), mRNA (NM_001145010)                               |
| A.23.P342053   | RBBP6          | 3.457 | 1.789 | up         | Homo sapiens retinoblastoma binding protein 6 (RBBP6), transcript variant 3, mRNA (NM_038296)                                   |
| A.21.P0006971  | inc-CEBPB-1    | 3.455 | 1.789 | up         | LNCipedia lincRNA (inc-CEBPB-1), lincRNA (inc-CEBPB-1)  |
| A.33.P2260175  |                | 3.451 | 1.787 | up         |   |
| A.21.P0065618  |                | 3.450 | 1.787 | up         |   |
| A.23.P106501   | HMOX2          | 3.450 | 1.787 | up         | Homo sapiens hemo oxygenase (decycling) 2 (HMOX2), transcript variant 3, mRNA (NM_002134)                                       |
| A.33.P3286664  | ATP9A2         | 3.449 | 1.786 | up         | Homo sapiens ATPase, aminophospholipid transporter, class 1, type 9A, member 2 (ATP9A2), mRNA (NM_016528)                       |
| A.23.P251937   | CFEB4          | 3.449 | 1.786 | up         | Homo sapiens cytoplasmic polyadenylation element binding protein 4 (CFEB4), mRNA (NM_030827)                                    |
| A.24.P244892   |                | 3.448 | 1.786 | up         | Zinc finger protein 683, pseudogene (Source:HGNC Symbol:ACEHGNC:25342) [ENST00000400371]  |
| A.21.P0002571  | inc-ID2-1      | 3.445 | 1.784 | up         | LNCipedia lincRNA (inc-ID2-1), lincRNA (inc-ID2-1)  |
| A.33.P3321136  | DEFND3         | 3.441 | 1.783 | up         | Homo sapiens DENN1/MADD domain containing 3 (DEFND3), mRNA (NM_016957)  |
| A.33.P3321136  | DEFND3         | 3.440 | 1.783 | up         | microtubule-associated protein 1 light chain 8 beta pseudogene 1 (Source:HGNC Symbol:ACEHGNC:49783) [ENST00000435424]           |
| A.22.P00015419 | ASPH1          | 3.438 | 1.782 | up         | Homo sapiens aspartate decarboxylase (ASPH1), transcript variant 3, mRNA (NM_022466)  |
| A.21.P0003564  | inc-TTC9-1     | 3.438 | 1.782 | up         | LNCipedia lincRNA (inc-TTC9-1), lincRNA (inc-TTC9-1)  |
| A.22.P212686   | FSTL1          | 3.438 | 1.781 | up         | Homo sapiens follistatin-like 1 (FSTL1), mRNA (NM_007088)   |
| A.33.P3231428  | CHDH           | 3.437 | 1.780 | up         | Homo sapiens cDNA FL447693.6 clone BAC63031579, AK126714  |
| A.23.P69293    | CHDH           | 3.435 | 1.780 | up         | Homo sapiens choline dehydrogenase (CHDH), mRNA (NM_018397)   |
| A.23.P501372   | MEF2           | 3.434 | 1.780 | up         | Homo sapiens myoblastin elongation factor 2 (MEF2), transcript variant 1, mRNA (NM_139162)                                      |
| A.21.P0006071  | MT1E           | 3.434 | 1.780 | up         | Homo sapiens metallothionein 1E (MT1E), mRNA (NM_173617)  |
| A.23.P164179   | TOB1           | 3.433 | 1.780 | up         | Homo sapiens transducer of ERBB2, 1 (TOB1), transcript variant 1, mRNA (NM_005749)  |
| A.33.P206889   | AXL            | 3.433 | 1.780 | up         | Homo sapiens AXL receptor tyrosine kinase (AXL), transcript variant 1, mRNA (NM_021913)   |
| A.22.P00024884 | LOC101922995   | 3.433 | 1.779 | up         | LOC101922995, non-coding RNA (LOC101922995), transcript variant 1, mRNA (NM_021913)   |
| A.22.P00019555 | TRIM2          | 3.432 | 1.779 | up         | Homo sapiens uncharacterized LOC101922995 (LOC101922995), long non-coding RNA (NR_110729)                                       |
| A.24.P208809   | GDA            | 3.430 | 1.778 | up         | Homo sapiens tripartite motif containing 2 (TRIM2), transcript variant 1, mRNA (NM_015271)                                      |
| A.24.P293571   | GDA            | 3.430 | 1.778 | up         | Homo sapiens guanine deaminase (GDA), transcript variant 2, mRNA (NM_004293)  |
| A.21.P00009292 | inc-AUH-4      | 3.427 | 1.777 | up         | LNCipedia lincRNA (inc-AUH-4), lincRNA (inc-AUH-4)  |
| A.22.P0001709  | inc-SLC22A47-3 | 3.426 | 1.776 | up         | LNCipedia lincRNA (inc-SLC22A47-3), lincRNA (inc-SLC22A47-3)  |
| A.33.P326383   | CH3B           | 3.425 | 1.776 | up         | Homo sapiens chromosome 3 (CH3B), transcript variant 2, mRNA (NM_159111)  |
| A.33.P292689   | CH3B           | 3.425 | 1.776 | up         | Homo sapiens chromosome 3 (CH3B), transcript variant 1, mRNA (NM_024111)  |



|                |      |       |      |                |    |      |       |      |  |
|----------------|------|-------|------|----------------|----|------|-------|------|--|
| A.23.P150005   | 3346 | 1.743 | 3346 | TROAP          | up | 3346 | 1.743 | 3346 | Homo sapiens trophoblast protein (TROAP), transcript variant 1, mRNA [NM_005448]   |
| A.24.P286622   | 3343 | 1.741 | 3343 | ARRB1          | up | 3343 | 1.741 | 3343 | Homo sapiens arrestin beta 1 (ARRB1), transcript variant 1, mRNA [NM_004041]   |
| A.23.P27005    | 3343 | 1.741 | 3343 | DHRS11         | up | 3343 | 1.741 | 3343 | Homo sapiens dehydrogenase/reductase (SDR family) member 11 (DHRS11), mRNA [NM_024308]                                       |
| A.23.P89601    | 3339 | 1.739 | 3339 | KRT32          | up | 3339 | 1.739 | 3339 | Homo sapiens keratin 32, type I (KRT32), mRNA [NM_002278]  |
| A.33.P3246054  | 3336 | 1.738 | 3336 | MAP3K8         | up | 3336 | 1.738 | 3336 | mitogen-activated protein kinase kinase kinase 8 [Source:HGNC Symbol;Acc:HGNC:6860] [ENS:00000375322]                        |
| A.21.P0006804  | 3335 | 1.738 | 3335 | lnc-RNF113B-1  | up | 3335 | 1.738 | 3335 | lnc-RNF113B-1, lincRNA [Source:HGNC Symbol;Acc:HGNC:6860] [ENS:00000375322]  |
| A.33.P3369760  | 3335 | 1.737 | 3335 | GLI2P2         | up | 3335 | 1.737 | 3335 | Homo sapiens gli2 pathogenesis-related 2 (GLI2P2), transcript variant 3, mRNA [NM_001287011]                                 |
| A.33.P865933   | 3334 | 1.737 | 3334 | PHM2           | up | 3334 | 1.737 | 3334 | Homo sapiens DNA polyphosphate 2 (PHM2), transcript variant 1, mRNA [NM_001287011]   |
| A.24.P137434   | 3334 | 1.737 | 3334 | DCBLD2         | up | 3334 | 1.737 | 3334 | Homo sapiens discoidin, CUB and LCC1 domain containing 2 (DCBLD2), mRNA [NM_008927]  |
| A.22.P0007108  | 3331 | 1.736 | 3331 | TRAF1          | up | 3331 | 1.736 | 3331 | TRAF1, TNF-inducible protein, fragment (fragment), paralog 1 (275), [T62735.122]   |
| A.22.P0003394  | 3328 | 1.736 | 3328 | SIAM2          | up | 3328 | 1.736 | 3328 | Homo sapiens signal transducer and activator of transcription 2, domain 2 (SIAM2), transcript variant 1, mRNA [NM_001386053] |
| A.24.P286642   | 3328 | 1.736 | 3328 | HEC3           | up | 3328 | 1.736 | 3328 | Homo sapiens heparan sulfate 3-O-sulfotransferase 3 (HEC3), transcript variant 1, mRNA [NM_0116045]                          |
| A.23.P267869   | 3327 | 1.734 | 3327 | MYL9           | up | 3327 | 1.734 | 3327 | Homo sapiens myosin, light chain 9, regulatory (MYL9), transcript variant 2, mRNA [NM_011526]                                |
| A.23.P210425   | 3326 | 1.734 | 3326 | LOC100128463   | up | 3326 | 1.734 | 3326 | Homo sapiens cDNA FL220334.1a, clone PANG08933, [AK128545]   |
| A.33.P338117   | 3325 | 1.733 | 3325 | APMGX4         | up | 3325 | 1.733 | 3325 | armadillo repeat containing, X-linked 4 [Source:HGNC Symbol;Acc:HGNC:28419] [ENS:00000431677]                                |
| A.21.P0013175  | 3325 | 1.733 | 3325 | CHAC1          | up | 3325 | 1.733 | 3325 | Homo sapiens Chac1 glutathione-specific gamma-lymulinyltransferase 1 (CHAC1), transcript variant 1, mRNA [NM_024111]         |
| A.33.P3376971  | 3324 | 1.733 | 3324 | LOC10006443    | up | 3324 | 1.733 | 3324 | long interspersed non-retroviral RNA 1436 [Source:HGNC Symbol;Acc:HGNC:50846] [ENS:00000433902]                              |
| A.21.P0006443  | 3324 | 1.733 | 3324 | KONK9          | up | 3324 | 1.733 | 3324 | Homo sapiens potassium channel, two pore domain subfamily K, member 9 (KCNK9), transcript variant 1, mRNA [NM_001282534]     |
| A.23.P119178   | 3324 | 1.733 | 3324 | SIY1-RAB43     | up | 3324 | 1.733 | 3324 | Homo sapiens SIY1-RAB43 readthrough (SIY1-RAB43), mRNA [NM_001204890]  |
| A.33.P326073   | 3323 | 1.733 | 3323 | SIY1-RAB43     | up | 3323 | 1.733 | 3323 | Homo sapiens SIY1-RAB43 readthrough (SIY1-RAB43), mRNA [NM_001204890]  |
| A.19.P00318846 | 3323 | 1.732 | 3323 | lnc-ARR1C2-4   | up | 3323 | 1.732 | 3323 | Homo sapiens mRNA, cDNA DKFZ688D15181 (from clone DKFZ688D15181), [CR749391]   |
| A.33.P3395321  | 3321 | 1.732 | 3321 | HNT            | up | 3321 | 1.732 | 3321 | Homo sapiens hematological and neurological expressed 1 (HNT), transcript variant 2, mRNA [NM_001020332]                     |
| A.33.P3269536  | 3321 | 1.732 | 3321 | SESN1          | up | 3321 | 1.732 | 3321 | Homo sapiens suppressor of silencing 1 (SESN1), transcript variant 1, mRNA [NM_001168034]                                    |
| A.23.P781008   | 3320 | 1.731 | 3320 | AIDCC          | up | 3320 | 1.731 | 3320 | Homo sapiens aldolase C, fructose-bisphosphate (AIDCC), mRNA [NM_005105]   |
| A.32.P251617   | 3319 | 1.731 | 3319 | TM6SF1         | up | 3319 | 1.731 | 3319 | Homo sapiens transmembrane 4 L six family member 1 (TM6SF1), mRNA [NM_014229]  |
| A.33.P327264   | 3319 | 1.731 | 3319 | GD3A           | up | 3319 | 1.731 | 3319 | GD3 complex subunit 4 [Source:HGNC Symbol;Acc:HGNC:28453] [ENS:00000378455]  |
| A.33.P3269728  | 3318 | 1.730 | 3318 | LOC1000007845  | up | 3318 | 1.730 | 3318 | Homo sapiens ankyrin repeat domain 10 (ANKRD10), transcript variant 2, mRNA [NM_001282871]                                   |
| A.33.P3269728  | 3318 | 1.730 | 3318 | LOC1000007845  | up | 3318 | 1.730 | 3318 | Homo sapiens solid core domain family 9 (SCDF9), transcript variant 1, mRNA [NM_001282871]                                   |
| A.33.P32697165 | 3314 | 1.729 | 3314 | ARH08          | up | 3314 | 1.729 | 3314 | Homo sapiens aryl hydrocarbon receptor 8 (ARH08), mRNA [NM_021432]   |
| A.23.P144070   | 3314 | 1.728 | 3314 | CNTN4          | up | 3314 | 1.728 | 3314 | Homo sapiens contactin 4 (CNTN4), transcript variant 3, mRNA [NM_175813]   |
| A.21.P0006678  | 3313 | 1.728 | 3313 | GSTO1          | up | 3313 | 1.728 | 3313 | Homo sapiens glutathione S-transferase omega 1 (GSTO1), transcript variant 1, mRNA [NM_004832]                               |
| A.24.P304051   | 3313 | 1.728 | 3313 | ZNF692         | up | 3313 | 1.728 | 3313 | Homo sapiens zinc finger protein 692 (ZNF692), transcript variant 1, mRNA [NM_001207404]                                     |
| A.33.P3364004  | 3312 | 1.728 | 3312 | TEC1D3B        | up | 3312 | 1.728 | 3312 | Homo sapiens TEC1 domain family, member 3B (TEC1D3B), mRNA [NM_001001417]  |
| A.33.P3388376  | 3308 | 1.726 | 3308 | LOC100098      | up | 3308 | 1.726 | 3308 | BROAD Institute lincRNA XLOC_12_000399, lincRNA [CONS:12_00000982]   |
| A.21.P0010563  | 3306 | 1.725 | 3306 | XLOC_12_000399 | up | 3306 | 1.725 | 3306 | BROAD Institute lincRNA XLOC_12_000399, lincRNA [CONS:12_00000982]   |
| A.21.P000303   | 3304 | 1.724 | 3304 | LINC01208      | up | 3304 | 1.724 | 3304 | Homo sapiens long interspersed non-retroviral RNA 1208 (LINC01208), long non-coding RNA [NR_109888]                          |
| A.33.P327291   | 3303 | 1.724 | 3303 | AKR1C4         | up | 3303 | 1.724 | 3303 | Homo sapiens aldo-keto reductase family 1, member C4 (AKR1C4), mRNA [NM_001818]  |
| A.23.P51065    | 3302 | 1.723 | 3302 | SFC25          | up | 3302 | 1.723 | 3302 | Homo sapiens SFC25, NDC80 kinetochore complex component (SFC25), mRNA [NM_020675]  |
| A.33.P3394727  | 3301 | 1.723 | 3301 | KHDRBS3        | up | 3301 | 1.723 | 3301 | Homo sapiens K1 domain containing, RNA binding, signal transduction associated 3 (KHDRBS3), mRNA [NM_006556]                 |
| A.33.P3381996  | 3300 | 1.722 | 3300 | C9orf49        | up | 3300 | 1.722 | 3300 | Homo sapiens chromosome 9 open reading frame 49 (C9orf49), long non-coding RNA [NR_103592]                                   |
| A.33.P3410201  | 3298 | 1.722 | 3298 | SYT14          | up | 3298 | 1.722 | 3298 | Homo sapiens synaptobrevin XIV (SYT14), transcript variant 4, mRNA [NM_152662]   |
| A.24.P402415   | 3298 | 1.722 | 3298 | lnc-EN1-1      | up | 3298 | 1.722 | 3298 | LNCaedia, lincRNA linc-EN1-1, lincRNA [linc-EN1-1]   |
| A.22.P0005750  | 3298 | 1.722 | 3298 | LOC1000007845  | up | 3298 | 1.722 | 3298 | Homo sapiens long interspersed non-retroviral RNA 1554 (LINC01554), long non-coding RNA [NR_026893]                          |
| A.32.P3269728  | 3298 | 1.722 | 3298 | LOC1000007845  | up | 3298 | 1.722 | 3298 | Homo sapiens long interspersed non-retroviral RNA 1554 (LINC01554), long non-coding RNA [NR_026893]                          |
| A.32.P3269728  | 3298 | 1.722 | 3298 | LOC1000007845  | up | 3298 | 1.722 | 3298 | Homo sapiens long interspersed non-retroviral RNA 1554 (LINC01554), long non-coding RNA [NR_026893]                          |
| A.23.P402708   | 3293 | 1.719 | 3293 | LOC1000007845  | up | 3293 | 1.719 | 3293 | Homo sapiens long interspersed non-retroviral RNA 1554 (LINC01554), long non-coding RNA [NR_026893]                          |
| A.33.P3388927  | 3292 | 1.718 | 3292 | MRD1           | up | 3292 | 1.718 | 3292 | Homo sapiens methyl-CpG binding domain protein 1 (MRD1), transcript variant 13, mRNA [NM_01204151]                           |
| A.21.P0003858  | 3292 | 1.718 | 3292 | lnc-CLCN8-1    | up | 3292 | 1.718 | 3292 | LNCaedia, lincRNA linc-CLCN8-1, lincRNA [linc-CLCN8-1]   |
| A.23.P371824   | 3291 | 1.718 | 3291 | TUFT1          | up | 3291 | 1.718 | 3291 | Homo sapiens tuftsin 1 (TUFT1), transcript variant 1, mRNA [NM_020127]   |
| A.33.P3214119  | 3291 | 1.718 | 3291 | INPP5B         | up | 3291 | 1.718 | 3291 | Homo sapiens inositol polyphosphate-5-phosphatase 79kDa, (INPP5B), transcript variant 1, mRNA [NM_005540]                    |
| A.23.P85640    | 3290 | 1.718 | 3290 | BXOR20         | up | 3290 | 1.718 | 3290 | BXOR20 [2] Source: NFL, T, GBC S1, Homo sapiens cDNA clone IMAGE89820575, IMAGE:228115, mRNA sequence [BXOR20.2]             |
| A.22.P00024336 | 3289 | 1.718 | 3289 | lnc-CSRP1-1    | up | 3289 | 1.718 | 3289 | PREDICTED: Homo sapiens lincRNA linc-CSRP1-1, lincRNA [XR_109892]  |
| A.33.P3295701  | 3288 | 1.717 | 3288 | FLJ46836       | up | 3288 | 1.717 | 3288 | PREDICTED: Homo sapiens FLJ46836 protein (FLJ46836), clone RNA [XR_109892]   |
| A.21.P0012115  | 3288 | 1.717 | 3288 | LOC100866895   | up | 3288 | 1.717 | 3288 | PREDICTED: Homo sapiens uncharacterized LOC100866895 (LOC100866895), transcript variant X9, ncRNA [XR_248917]                |
| A.33.P3346466  | 3288 | 1.717 | 3288 | ANKRD12        | up | 3288 | 1.717 | 3288 | Homo sapiens ankyrin repeat domain 12 (ANKRD12), transcript variant 3, mRNA [NM_001204056]                                   |
| A.22.P00010314 | 3287 | 1.717 | 3287 | lnc-MUC20-3    | up | 3287 | 1.717 | 3287 | Homo sapiens cDNA FLJ45707.1a, clone FHEHT2001482, [AK127609]  |
| A.33.P3324208  | 3285 | 1.716 | 3285 | HR             | up | 3285 | 1.716 | 3285 | Homo sapiens hair growth associated 4 (HR), transcript variant 1, mRNA [NM_005144]   |
| A.19.P00318481 | 3285 | 1.716 | 3285 | LOC101821137   | up | 3285 | 1.716 | 3285 | Homo sapiens cDNA FLJ26070.1a, clone PFS09374, [AK122691]  |
| A.33.P3402728  | 3284 | 1.715 | 3284 | LOC1003376     | up | 3284 | 1.715 | 3284 | Homo sapiens long interspersed non-retroviral RNA 376 (LINC00376), long non-coding RNA [NR_124469]                           |
| A.33.P3402728  | 3282 | 1.714 | 3282 | LOC1003376     | up | 3282 | 1.714 | 3282 | Homo sapiens long interspersed non-retroviral RNA 376 (LINC00376), long non-coding RNA [NR_124469]                           |
| A.33.P3402728  | 3282 | 1.714 | 3282 | LOC1003376     | up | 3282 | 1.714 | 3282 | Homo sapiens long interspersed non-retroviral RNA 376 (LINC00376), long non-coding RNA [NR_124469]                           |
| A.23.P0006178  | 3282 | 1.714 | 3282 | COPB1          | up | 3282 | 1.714 | 3282 | Homo sapiens coiled-coil domain containing 1B (COPB1), transcript variant 1, mRNA [NM_0023004]                               |
| A.23.P0006178  | 3281 | 1.714 | 3281 | SVZ2           | up | 3281 | 1.714 | 3281 | Homo sapiens SVZ2, lincRNA linc-SVZ2, lincRNA [NM_011832]  |
| A.24.P204244   | 3279 | 1.713 | 3279 | ANXA2P1        | up | 3279 | 1.713 | 3279 | Homo sapiens annexin A2 pseudogene 1 (ANXA2P1), non-coding RNA [NR_001562]   |
| A.23.P52647    | 3279 | 1.713 | 3279 | EHDI1          | up | 3279 | 1.713 | 3279 | Homo sapiens EH-domain containing 1 (EHDI1), transcript variant 2, mRNA [NM_006795]  |
| A.33.P327073   | 3275 | 1.712 | 3275 | USP11          | up | 3275 | 1.712 | 3275 | Homo sapiens ubiquitin specific peptidase 11 (USP11), mRNA [NM_004461]   |
| A.33.P463976   | 3274 | 1.711 | 3274 | RAP1GAP        | up | 3274 | 1.711 | 3274 | Homo sapiens RAS1 GTPase activating protein, (RAP1GAP), transcript variant 9, mRNA [NM_002885]                               |
| A.33.P3234794  | 3274 | 1.711 | 3274 | APHGAP40       | up | 3274 | 1.711 | 3274 | Homo sapiens Ras GTPase activating protein 40 (APHGAP40), mRNA [NM_00116443]   |
| A.33.P3222449  | 3274 | 1.711 | 3274 | RST11075       | up | 3274 | 1.711 | 3274 | RST11075 Athyria RAGE Library Homo sapiens cDNA, mRNA sequence [EG_192795]   |
| A.23.P28517    | 3273 | 1.711 | 3273 | SYNP02L        | up | 3273 | 1.711 | 3273 | Homo sapiens synaptobrevin 2-like (SYNP02L), transcript variant 2, mRNA [NM_024815]  |
| A.32.P77688    | 3271 | 1.710 | 3271 | TMEM20B        | up | 3271 | 1.710 | 3271 | Homo sapiens transmembrane protein 20B (TMEM20B), transcript variant 2, mRNA [NM_001003882]                                  |
| A.33.P338113   | 3271 | 1.710 | 3271 | TRD3           | up | 3271 | 1.710 | 3271 | Homo sapiens transmembrane domain derived 3 (TRD3), transcript variant 1, mRNA [NM_001012681]                                |
| A.23.P15146    | 3271 | 1.710 | 3271 | IL32           | up | 3271 | 1.710 | 3271 | Homo sapiens interleukin 32 (IL32), transcript variant 1, mRNA [NM_001012681]  |
| A.22.P00010241 | 3270 | 1.709 | 3270 | lnc-MTAS-3     | up | 3270 | 1.709 | 3270 | LNCaedia, lincRNA linc-MTAS-3, lincRNA [linc-MTAS-3]   |
| A.24.P358505   | 3269 | 1.709 | 3269 | CAB9L          | up | 3269 | 1.709 | 3269 | Homo sapiens calcium binding protein 39-like (CAB9L), transcript variant 2, mRNA [NM_001073970]                              |
| A.33.P3273895  | 3268 | 1.708 | 3268 | IL1A           | up | 3268 | 1.708 | 3268 | Homo sapiens interleukin 1, alpha (IL1A), mRNA [NM_000575]   |
| A.24.P89303    | 3268 | 1.708 | 3268 | ACTB1.2        | up | 3268 | 1.708 | 3268 | Homo sapiens actin, beta-like 2 (ACTB1.2), mRNA [NM_001011993]   |
| A.21.P2600112  | 3268 | 1.707 | 3268 | ZNF728         | up | 3268 | 1.707 | 3268 | Homo sapiens zinc finger protein 728 (ZNF728), mRNA [NM_001244638]   |













|                |       |       |       |             |  |
|----------------|-------|-------|-------|-------------|--|
| A.33.P3203237  | 2.866 | 1.519 | 2.866 | inc-SULF1-3 | Q881Z0 HUMAN (Q881Z0) Full-length cDNA clone GS0002323Y15 of Neuroblastoma of Homo sapiens (human) [Fragment], partial (30%) [TC2780218] |
| A.24.P103886   | 2.865 | 1.518 | 2.865 | up          | Homo sapiens isopentenyl-diphosphate delta isomerase 1 (IDI), mRNA [NM.0045008]  |
| A.22.P00028225 | 2.863 | 1.517 | 2.863 | up          | LOC624168  |
| A.21.P0007074  | 2.862 | 1.517 | 2.862 | up          | inc-TME48B-4   |
| A.24.P128233   | 2.862 | 1.517 | 2.862 | up          | Homo sapiens TRHDE antisense RNA 1 (TRHDE-AS1), transcript variant 1, long non-coding RNA [NR.0268377]                                   |
| A.24.P1416131  | 2.861 | 1.517 | 2.861 | up          | Homo sapiens sodium channel, voltage-gated, type V, alpha subunit, (SCN5A), transcript variant 2, mRNA [NM.000395]                       |
| A.22.P00025030 | 2.861 | 1.517 | 2.861 | up          | Homo sapiens coactin-like F-actin binding protein 1 (COTL1), mRNA [NM.021149]  |
| A.23.P425332   | 2.861 | 1.516 | 2.861 | up          | PPP4R4   |
| A.33.P3304060  | 2.859 | 1.516 | 2.859 | up          | HIT  |
| A.24.P410362   | 2.859 | 1.515 | 2.859 | up          | PEA15  |
| A.33.P330386   | 2.859 | 1.515 | 2.859 | up          | PREDICTED: Homo sapiens uncharacterized LOC102928249, transcript variant 2, mRNA [XM.0032786]  |
| A.19.P0021540  | 2.858 | 1.514 | 2.858 | up          | LOC10192649  |
| A.22.P274565   | 2.858 | 1.514 | 2.858 | up          | inc-MAGEA2   |
| A.32.P29267    | 2.850 | 1.511 | 2.850 | up          | Homo sapiens actinome, 8 (ANOR), mRNA [NM.0028958]   |
| A.22.P00224555 | 2.849 | 1.510 | 2.849 | up          | Homo sapiens H1 histone family member 0 (H1FO), mRNA [NM.006318]   |
| A.33.P3203350  | 2.848 | 1.510 | 2.848 | up          | oligosaccharyl transferase 1 (OST1), mRNA [NM.000394191]   |
| A.32.P157213   | 2.845 | 1.509 | 2.845 | up          | Homo sapiens zinc finger, SWIM-type, containing 4 (ZSWIM4), mRNA [NM.023072]   |
| A.22.P00082929 | 2.845 | 1.508 | 2.845 | up          | inc-MAP1LC3C-1   |
| A.33.P3412428  | 2.843 | 1.507 | 2.843 | up          | LOC101928220   |
| A.23.P350172   | 2.842 | 1.507 | 2.842 | up          | ADAM32   |
| A.21.P0009414  | 2.842 | 1.506 | 2.842 | up          | Homo sapiens ADAM metalloproteinase domain 32 (ADAM32), mRNA [NM.145004]   |
| A.23.P4202933  | 2.840 | 1.506 | 2.840 | up          | inc-SRI-4  |
| A.23.P423311   | 2.839 | 1.506 | 2.839 | up          | inc-SRI-4  |
| A.21.P0009171  | 2.838 | 1.505 | 2.838 | up          | inc-SRI-4  |
| A.23.P3202627  | 2.836 | 1.504 | 2.836 | up          | PAR6B2   |
| A.22.P0001108  | 2.835 | 1.503 | 2.835 | up          | LOC101928220   |
| A.33.P3256868  | 2.834 | 1.503 | 2.834 | up          | GAAT1  |
| A.24.P276892   | 2.833 | 1.502 | 2.833 | up          | ATP1V1C2   |
| A.33.P327232   | 2.832 | 1.502 | 2.832 | up          | inc-PKNS-2   |
| A.24.P154507   | 2.832 | 1.502 | 2.832 | up          | ITGB1BP1   |
| A.33.P3418811  | 2.832 | 1.502 | 2.832 | up          | CYBA   |
| A.24.P378253   | 2.832 | 1.502 | 2.832 | up          | ZNFX2  |
| A.24.P405446   | 2.831 | 1.501 | 2.831 | up          | GNB3   |
| A.33.P334102   | 2.830 | 1.501 | 2.830 | up          | ARHGAP27   |
| A.24.P330049   | 2.830 | 1.501 | 2.830 | up          | SHGGL1   |
| A.33.P333833   | 2.830 | 1.501 | 2.830 | up          | SHGGL1   |
| A.33.P337719   | 2.828 | 1.500 | 2.828 | up          | LOC100290112   |
| A.19.P0002457  | 2.828 | 1.498 | 2.828 | up          | CSMR6-AS1  |
| A.19.P00021132 | 2.826 | 1.498 | 2.826 | up          | LOC101927138   |
| A.22.P374369   | 2.825 | 1.498 | 2.825 | up          | PWWP2B   |
| A.21.P0014639  | 2.824 | 1.498 | 2.824 | up          | inc-PKNS-2   |
| A.33.P3260053  | 2.824 | 1.498 | 2.824 | up          | FIBRS1L1   |
| A.23.P118842   | 2.824 | 1.498 | 2.824 | up          | AIF1L  |
| A.33.P3220827  | 2.824 | 1.498 | 2.824 | up          | KRTAP1-5   |
| A.33.P3372944  | 2.823 | 1.497 | 2.823 | up          | PEA15  |
| A.33.P334311   | 2.823 | 1.497 | 2.823 | up          | TINF2  |
| A.33.P3319845  | 2.823 | 1.497 | 2.823 | up          | SH3BGRL2   |
| A.24.P316718   | 2.822 | 1.497 | 2.822 | up          | ORF1B6   |
| A.33.P3252530  | 2.821 | 1.496 | 2.821 | up          | ZNFX2  |
| A.33.P3263001  | 2.821 | 1.496 | 2.821 | up          | LOC393603  |
| A.22.P320319   | 2.821 | 1.496 | 2.821 | up          | LOC103093  |
| A.22.P327664   | 2.816 | 1.494 | 2.816 | up          | inc-HPPL1-1  |
| A.33.P3207663  | 2.815 | 1.493 | 2.815 | up          | AL32   |
| A.19.P00317836 | 2.813 | 1.492 | 2.813 | up          | LEPN2  |
| A.33.P3253420  | 2.813 | 1.492 | 2.813 | up          | LEPN2  |
| A.33.P3404899  | 2.813 | 1.492 | 2.813 | up          | LEPN2  |
| A.23.P116264   | 2.812 | 1.492 | 2.812 | up          | NRGN   |
| A.33.P322658   | 2.811 | 1.491 | 2.811 | up          | ARHGAP27   |
| A.23.P164263   | 2.810 | 1.491 | 2.810 | up          | PHY2   |
| A.33.P3212782  | 2.810 | 1.491 | 2.810 | up          | CALM2  |
| A.32.P161076   | 2.808 | 1.489 | 2.808 | up          | CD2  |
| A.33.P3272552  | 2.807 | 1.489 | 2.807 | up          | ENPP1  |
| A.21.P0000358  | 2.806 | 1.488 | 2.806 | up          | KRT83  |
| A.21.P301832   | 2.804 | 1.488 | 2.804 | up          | PREDICTED: Homo sapiens alpha crystallin family 20, member 3 (SLC22A31), transcript variant X3, mRNA [XM.0062147]                        |
| A.33.P301861   | 2.804 | 1.488 | 2.804 | up          | Homo sapiens cDNA clone IMAGE469393, [G524828]   |





|                |       |       |  |  |
|----------------|-------|-------|--|--|
| A.23.P132036   | 2.692 | 1.429 | SFCS3  | Homo sapiens signal peptidase complex subunit 3 homolog (S. cerevisiae) (SPOCS3). mRNA [NM_021923]                           |
| A.22.P0008937  | 2.692 | 2.692 | Cl2w480  | Homo sapiens chromosome 12 open reading frame 80 (Cl2w480). mRNA [NM_02142398]   |
| A.21.P0001320  | 2.691 | 1.428 | linc-FPGT-4  | LncGedidia lincRNA linc-FPGT-4. lincRNA [linc-FPGT-4]  |
| A.22.P00019769 | 2.690 | 1.427 | linc-INTG  | long intergenic non-coding RNA INTG. lincRNA [linc-INTG]   |
| A.24.P128774   | 2.689 | 1.427 | HSPIDAA1   | Homo sapiens heat shock protein 90Da alpha (cytosolic), class A member 1 (HSP90AA1). transcript variant 2. mRNA [NM_0063348] |
| A.24.P128777   | 2.688 | 1.427 | ADH1A2   | Homo sapiens aldehyde dehydrogenase 1 family, member A2 (ADH1A2). transcript variant 3. mRNA [NM_170897]                     |
| A.23.P133095   | 2.688 | 1.426 | RAPGEF2  | Homo sapiens Rap guanine nucleotide exchange factor (GEF-2) (RAPGEF2). mRNA [NM_014247]                                      |
| A.33.P3301010  | 2.688 | 1.425 | SPRIF1   | Homo sapiens sperm-type actin nucleation factor 1 (SPRIF1). transcript variant 1. mRNA [NM_001128826]                        |
| A.21.P0000370  | 2.688 | 1.425 | ADORA2A-AS1  | Homo sapiens ADORA2A antisense RNA 1 (ADORA2A-AS1). transcript variant 2. long non-coding RNA [NR_028483]                    |
| A.21.P0013286  | 2.684 | 1.424 | XLOC_02.013737   | BROAD Institute lincRNA XLOC_02.013737. lincRNA [XLOC_02.013737]   |
| A.22.P0002692  | 2.683 | 1.424 | TEB1B9   | Homo sapiens TEB1 domain family member 9 (with GYF domain) (TEB1B9). mRNA [NM_0151303]                                       |
| A.22.P0002693  | 2.683 | 1.424 | TEB1C9   | Homo sapiens TEB1 domain family member 9 (with GYF domain) (TEB1C9). mRNA [NM_0151304]                                       |
| A.33.P33026187 | 2.679 | 1.422 | XCR1   | XCR1 antisense RNA 3 (XCR1-AS3). lincRNA [linc-XCR1-AS3]   |
| A.33.P33026188 | 2.679 | 1.422 | XCR1   | XCR1 antisense RNA 4 (XCR1-AS4). lincRNA [linc-XCR1-AS4]   |
| A.32.P156863   | 2.679 | 1.422 | linc-SEI01B-1  | AGENCOURT10404004 NH MGC-82 Homo sapiens cDNA clone IMAGE 66 5837.5. mRNA sequence [E066516]                                 |
| A.32.P156864   | 2.679 | 1.422 | ACT101   | Homo sapiens actin serpin 1 (ACT101). transcript variant 2. mRNA [NM_0018143]  |
| A.22.P00025560 | 2.678 | 1.421 | linc-MUSK-2  | Homo sapiens cDNA FL37814.6, clone BRSN2002859. [AK095133]   |
| A.24.P56130    | 2.678 | 1.421 | MYL6   | Homo sapiens myosin, light chain 6, alkali, smooth muscle and non-muscle (MYL6). transcript variant 2. mRNA [NM_073423]      |
| A.21.P0010581  | 2.677 | 1.420 | XLOC_02.000676   | BROAD Institute lincRNA XLOC_02.000676. lincRNA [XLOC_02.000676]   |
| A.23.P165671   | 2.677 | 1.420 | SLC20A1  | Homo sapiens solute carrier family 20 (anion phosphate transporter), member 1 (SLC20A1). mRNA [NM_005415]                    |
| A.22.P0001059  | 2.676 | 1.420 | ADAM8  | Homo sapiens ADAM metalloproteinase domain 8 (ADAM8). transcript variant 1. mRNA [NM_00164488]                               |
| A.23.P310483   | 2.674 | 1.419 | C9orf38  | Homo sapiens chromosome 9 open reading frame 38 (C9orf38). transcript variant 1. mRNA [NM_00103842]                          |
| A.21.P0014673  | 2.674 | 1.419 | linc-NT5DC3-1  | AF160476 CD44-like pressor FELL [Homo sapiens] (wgs-1, wgs-9, cgd-0). partial (5'). [HG251818757]                            |
| A.33.P3305656  | 2.673 | 1.419 | FND59  | Homo sapiens fibronectin type III domain containing 5 (FND59). mRNA [NM_001001343]   |
| A.24.P166401   | 2.673 | 1.419 | CDSP1  | Homo sapiens CLUB domain containing protein 1 (CDSP1). transcript variant 2. mRNA [NM_178181]                                |
| A.23.P110651   | 2.672 | 1.418 | FST  | Homo sapiens foliastin (FST). transcript variant FST344. mRNA [NM_013409]  |
| A.33.P3329378  | 2.672 | 1.418 | GNTN6  | Homo sapiens contactin 6 (GNTN6). transcript variant 1. mRNA [NM_014461]   |
| A.23.P3329379  | 2.672 | 1.418 | AMPH   | Homo sapiens amphiphysin (AMPH). transcript variant 1. mRNA [NM_001639]  |
| A.22.P0002692  | 2.671 | 1.418 | XLOC_02.013737   | BROAD Institute lincRNA XLOC_02.013737. lincRNA [XLOC_02.013737]   |
| A.33.P3323105  | 2.671 | 1.418 | MLL14  | D424293 K02NE2 Homo sapiens cDNA clone K02NE2008102.9. mRNA sequence [D424293]   |
| A.22.P0001835  | 2.671 | 1.417 | ARHGAP5-AS1  | Homo sapiens ARHGAP5 antisense RNA 1 (lined to head) (ARHGAP5-AS1). long non-coding RNA [NM_00120706]                        |
| A.33.P3346362  | 2.671 | 1.417 | FOXN2  | Homo sapiens foxted box N2 (FOXN2). mRNA [NM_002158]   |
| A.33.P3346363  | 2.671 | 1.417 | FOXN2  | Homo sapiens foxted box N2 (FOXN2). mRNA [NM_002158]   |
| A.21.P0004755  | 2.671 | 1.417 | LOC101821338   | BROAD Institute lincRNA XLOC_02.013963. lincRNA [XLOC_02.013963]   |
| A.21.P0013345  | 2.670 | 1.417 | XLOC_02.013963   | BROAD Institute lincRNA XLOC_02.013963. lincRNA [XLOC_02.013963]   |
| A.22.P0003658  | 2.669 | 1.416 | PICALM   | Homo sapiens phosphatidylinositol binding clathrin assembly protein (PICALM). transcript variant 1. mRNA [NM_007166]         |
| A.22.P00012679 | 2.669 | 1.416 | linc-ORF-1   | Homo sapiens cDNA FL43742.6, clone TES12018838. [AK1125700]  |
| A.33.P27535    | 2.669 | 1.416 | HRH2   | Homo sapiens histamine receptor H2 (HRH2). transcript variant 2. mRNA [NM_022304]  |
| A.22.P0002951  | 2.668 | 1.416 | linc-C9orf49-1   | LncGedidia lincRNA linc-C9orf49-1. lincRNA [linc-C9orf49-1]  |
| A.24.P194081   | 2.668 | 1.416 | FXYD5  | Homo sapiens FXD domain containing ion transport regulator 5 (FXYD5). transcript variant 1. mRNA [NM_144779]                 |
| A.21.P0009735  | 2.668 | 1.416 | LOC102723811   | PREDICTED: Homo sapiens uncharacterized LOC102723811 (LOC102723811). mRNA [XR_430169]  |
| A.33.P3301828  | 2.667 | 1.415 | GHRH   | Homo sapiens growth hormone releasing hormone (GHRH). transcript variant 1. mRNA [NM_021081]                                 |
| A.21.P0011068  | 2.666 | 1.415 | XLOC_02.002651   | BROAD Institute lincRNA XLOC_02.002651. lincRNA [XLOC_02.002651]   |
| A.22.P0002924  | 2.666 | 1.415 | linc-C9orf27-2   | AGENCOURT1389222 NH MGC-148 Homo sapiens cDNA clone IMAGE30337809.5. mRNA sequence [E0661578]                                |
| A.33.P3328262  | 2.665 | 1.414 | LOC102723811   | Homo sapiens protein coding gene LOC102723811 (LOC102723811). mRNA [NM_002469]   |
| A.33.P3304506  | 2.664 | 1.413 | SEBOX  | Homo sapiens protein coding gene SEBOX (SEBOX). mRNA [NM_001063837]  |
| A.21.P0008659  | 2.663 | 1.413 | linc-SAFB-1  | LncGedidia lincRNA linc-SAFB-1. lincRNA [linc-SAFB-1]  |
| A.23.P138812   | 2.663 | 1.413 | IGFBP6   | Homo sapiens insulin-like growth factor binding protein 6 (IGFBP6). mRNA [NM_002178]   |
| A.22.P0002152  | 2.661 | 1.412 | linc-LEO1-2  | LncGedidia lincRNA linc-LEO1-2. lincRNA [linc-LEO1-2]  |
| A.22.P0000062  | 2.660 | 1.412 | NEAT1  | Homo sapiens nuclear paraspeckle assembly transcript 1 (non-grain coding) (NEAT1). long non-coding RNA [NR_028272]           |
| A.19.P00321332 | 2.657 | 1.410 | CEACAM7  | Homo sapiens carcinoembryonic antigen-related cell adhesion molecule 7 (CEACAM7). transcript variant 1. mRNA [NM_008690]     |
| A.33.P3254644  | 2.655 | 1.409 | GLS  | Homo sapiens glutaminase (GLS). transcript variant 2. mRNA [NM_001298310]  |
| A.33.P3281973  | 2.655 | 1.408 | STXBP1   | Homo sapiens syntaxin binding protein 1 (STXBP1). transcript variant 1. mRNA [NM_003165]                                     |
| A.24.P201171   | 2.654 | 1.408 | PDPK   | Homo sapiens pyridoxal pyridoxine, vitamin B6 kinase (PDPK). mRNA [NM_003681]  |
| A.24.P318697   | 2.653 | 1.408 | SYNP2L   | Homo sapiens synaptophysin 2-like (SYNP2L). transcript variant 1. mRNA [NM_00114133]   |
| A.33.P3346463  | 2.651 | 1.407 | CTH  | Homo sapiens cytochrome gamma-lyase (CTH). transcript variant 1. mRNA [NM_001909]  |
| A.23.P126103   | 2.650 | 1.406 | KRTAP10-12   | Homo sapiens keratin associated protein 10-12 (KRTAP10-12). mRNA [NM_198698]   |
| A.33.P3329378  | 2.649 | 1.406 | GAMBI  | Homo sapiens BMP and activin membrane-bound inhibitor (GAMBI). mRNA [NM_012342]  |
| A.23.P320739   | 2.649 | 1.406 | WDR2   | BX117827 SORBS1 [DBCS S] Homo sapiens cDNA clone IMAGE39887.03607. mRNA sequence [BX117827]                                  |
| A.22.P0002692  | 2.645 | 1.404 | WDR2   | Homo sapiens WDR repeat domain protein 2 (WDR2). mRNA [NM_004308]  |
| A.33.P3275263  | 2.645 | 1.403 | NMT2   | Homo sapiens nucleosome remodeling factor 2 (NMT2). mRNA [NM_004308]   |
| A.21.P0014388  | 2.643 | 1.402 | linc-SEI01B-1  | AGENCOURT10404004 NH MGC-82 Homo sapiens cDNA clone IMAGE 66 5837.5. mRNA sequence [E066516]                                 |
| A.22.P0002888  | 2.643 | 1.402 | ASB10  | Homo sapiens andy-in repeat and SOCS box containing 10 (ASB10). transcript variant 1. mRNA [NM_00142459]                     |
| A.33.P3300724  | 2.642 | 1.401 | XLOC_02.010759   | BROAD Institute lincRNA XLOC_02.010759. lincRNA [XLOC_02.010759]   |
| A.21.P0012602  | 2.641 | 1.401 | API53  | Homo sapiens adaptor-related protein complex 1, sigma 3 subunit (API53). transcript variant 1. mRNA [NM_001039569]           |
| A.33.P3288005  | 2.641 | 1.401 | PREDICTED: Homo sapiens uncharacterized LOC100652986 (LOC100652986). misc. RNA [XR_424286] |  |
| A.33.P3394189  | 2.641 | 1.401 | JADE2  | Homo sapiens Jada family P4D finger 2 (JADE2). transcript variant 3. mRNA [NM_015298]  |
| A.24.P226278   | 2.640 | 1.400 | RRF3   | Homo sapiens regulatory factor X-3 (influences HLA class II expression) (RRF3). transcript variant 2. mRNA [NM_134428]       |
| A.33.P339289   | 2.640 | 1.400 | UBE2S  | Homo sapiens ubiquitin-conjugating enzyme E2 (UBE2S). mRNA [NM_014500]   |
| A.32.P111328   | 2.639 | 1.400 | linc-TC21A-2   | LncGedidia lincRNA linc-TC21A-2. lincRNA [linc-TC21A-2]  |
| A.21.P0002945  | 2.639 | 1.400 | SLC31A1  | Homo sapiens solute carrier family 31 (copper transporter), member 1 (SLC31A1). mRNA [NM_001859]                             |
| A.33.P3424228  | 2.639 | 1.399 | RC12   | Homo sapiens rat guanine nucleotide dissociation stimulator-like 2 (RC12). transcript variant 1. mRNA [NM_004761]            |
| A.33.P335808   | 2.638 | 1.398 | ACOXL  | Homo sapiens acyl-CoA oxidase-like (ACOXL). mRNA [NM_001142807]  |
| A.22.P0000397  | 2.638 | 1.397 | linc-WAPK6-1   | LncGedidia lincRNA linc-WAPK6-1. lincRNA [linc-WAPK6-1]  |
| A.33.P3426213  | 2.633 | 1.397 |  |  |



|                |       |       |    |                      |   |
|----------------|-------|-------|----|----------------------|---|
| A.24.P350683   | 1.373 | 2.589 | up | SLC39A1              | solute carrier family 9, subfamily A, member 1 (Source:HGNC Symbol;Acc:HGNC:10711) [ENST00000374086]                          |
| A.33.P3271051  | 1.372 | 2.589 | up | CTH3                 | home sapiens cytohesin 3 (CYTH3), mRNA [NM.004227]  |
| A.23.P18839    | 2.589 | 2.589 | up | RASA1                | home sapiens RAS p21 protein activator (GTPase activating protein) 1 (RASA1), transcript variant 1, mRNA [NM.002890]          |
| A.23.P18839    | 1.372 | 2.589 | up | lnc-SLC7A8OS-1       | DB088950 TEST14 Home sapiens cDNA clone TEST1401566.5, mRNA sequence [DB088950]   |
| A.32.P146886   | 2.587 | 2.587 | up | FOXN2                | Home sapiens forkhead box N2 (FOXN2), mRNA [NM.002198]  |
| A.33.P326254   | 1.371 | 2.587 | up | LIMS1L               | Home sapiens LIM and semestral cell antigen-like domains 3-like (LIMS1L), transcript variant 2, non-coding RNA [NR.038098]    |
| A.22.P00010813 | 2.585 | 2.585 | up | SMGT-AS1             | Home sapiens SMGT antisense RNA 1 (SMGT-AS1), long non-coding RNA [NR.040663]   |
| A.33.P3362781  | 1.370 | 2.585 | up | KLHL36               | lnc-like family member 38 (Source:HGNC Symbol;Acc:HGNC:7844) [ENST00000694189]  |
| A.21.P00010115 | 1.369 | 2.584 | up | lnc-MYO1B-1          | LNGpedia, lncRNA lnc-MYO1B-1, lncRNA [lnc-MYO1B-1]  |
| A.33.P330057   | 1.368 | 2.584 | up | TM6SF1               | Home sapiens transmembrane 4 L-like family member 1 (TM6SF1), mRNA [NM.014529]  |
| A.33.P330057   | 2.582 | 2.582 | up | lnc-FOXP4            | Home sapiens FOXP4 domain only (FOXP4), transcript variant 1, lncRNA [NM.0139789]   |
| A.33.P330057   | 1.368 | 2.582 | up | lnc-FOXP4AS1         | Home sapiens FOXP4 domain only (FOXP4), transcript variant 1, lncRNA [NM.0139789]   |
| A.33.P330057   | 2.582 | 2.582 | up | lnc-MDIP1-3          | Home sapiens MDIP1 domain 3 (MDIP1-3), lncRNA [lnc-MDIP1-3]   |
| A.21.P0006489  | 2.581 | 2.581 | up | lnc-FOXP4AS1         | Home sapiens FOXP4 domain only (FOXP4), transcript variant 1, lncRNA [NM.0139789]   |
| A.23.P441916   | 1.368 | 2.581 | up | CPN1SW               | Home sapiens coiled-coil domain containing protein 1 (CPN1SW), transcript variant 1, mRNA [NM.001708]                         |
| A.24.P282343   | 2.580 | 2.580 | up | COX15                | Home sapiens coiled-coil domain containing protein 15 (COX15), transcript variant 1, mRNA [NM.003158]                         |
| A.23.P401331   | 1.367 | 2.580 | up | PITPNM2              | Home sapiens phosphatidylinositol transfer protein, member one-associated 2 (PITPNM2), transcript variant 1, mRNA [NM.020945] |
| A.23.P401331   | 2.580 | 2.580 | up | PDLIM2               | Home sapiens PDZ and LIM domain 2 (PDLIM2), transcript variant 3, mRNA [NM.189042]  |
| A.24.P182494   | 2.580 | 2.580 | up | DUSP10               | Home sapiens dual specificity phosphatase 10 (DUSP10), transcript variant 1, mRNA [NM.007207]                                 |
| A.33.P3322460  | 2.580 | 2.580 | up | SVPE1                | Home sapiens sush1, von Willebrand factor type A, EGF and pentatricopeptide domain containing 1 (SVPE1), mRNA [NM.153386]     |
| A.22.P00071449 | 1.366 | 2.578 | up | XLOC 02.010330       | BROAD Institute lincRNA XLOC 02.010330, lincRNA [XLOC 02.010330]  |
| A.21.P0012457  | 2.577 | 2.577 | up | XLOC 02.03253        | BROAD Institute lincRNA XLOC 02.03253, lincRNA [XLOC 02.03253]  |
| A.21.P0011074  | 2.576 | 2.576 | up | lnc-FAM85C-2         | lnc-FAM85C-2, lncRNA [lnc-FAM85C-2]   |
| A.21.P0010057  | 2.576 | 2.576 | up | CNN3                 | Home sapiens calponin 3, acidic (CNN3), transcript variant 1, mRNA [NM.001818]  |
| A.23.P138188   | 2.574 | 2.574 | up | CHUK17               | Home sapiens cytokine receptor, family 4, subfamily K, member 17 (CHUK17), mRNA [NM.00104715]                                 |
| A.33.P340688   | 1.363 | 2.572 | up | GPR84                | Home sapiens G protein-coupled receptor 84 (GPR84), transcript variant 1, mRNA [NM.001079588]                                 |
| A.33.P340688   | 2.572 | 2.572 | up | GOLGA8A              | Home sapiens golgin A4 family, member A (GOLGA8A), transcript variant 1, mRNA [NM.181077]                                     |
| A.33.P3351582  | 1.363 | 2.572 | up | DDIT4L               | Home sapiens DNA damage-inducible transcript 4-like (DDIT4L), mRNA [NM.149244]  |
| A.33.P3320589  | 2.571 | 2.571 | up | ZNF212               | Home sapiens zinc finger protein 212 (ZNF212), mRNA [NM.012246]   |
| A.23.P4134100  | 2.570 | 2.570 | up | ULBP3                | Home sapiens UL1 binding protein 3 (ULBP3), mRNA [NM.024518]  |
| A.33.P3248225  | 2.569 | 2.569 | up | EPBA15               | Home sapiens epidermal membrane protein band 4.1, lincRNA [EPBA15], transcript variant 3, mRNA [NM.001184388]                 |
| A.22.P00013673 | 1.361 | 2.569 | up | lnc-RP11-68880.2.1-1 | lnc-RP11-68880.2.1-1, lncRNA [lnc-RP11-68880.2.1-1]   |
| A.33.P33103377 | 2.569 | 2.569 | up | OR2B11               | lnc-HF-E50-wz-w-20-D-11, NIH MGC 2.13, Home sapiens cDNA clone IMAGE30561667.5, mRNA sequence [GF.28972]                      |
| A.23.P368889   | 1.361 | 2.568 | up | TMEM158              | Home sapiens olfactory receptor, family 2, subfamily B, member 11 (OR2B11), mRNA [NM.001094492]                               |
| A.33.P3278671  | 2.568 | 2.568 | up | ME5P1                | Home sapiens transmembrane protein 158 (lincRNA), (TMEM158), mRNA [NM.015444]   |
| A.33.P3214466  | 2.567 | 2.567 | up | SPRY4                | Home sapiens mesoderm posterior base heix-loop-heix transcription factor 1 (ME5P1), mRNA [NM.0018670]                         |
| A.33.P338423   | 2.567 | 2.567 | up | FAM219A              | Home sapiens sprouty homologue 4 (Drosophila) (SPRY4), transcript variant 3, mRNA [NM.001232288]                              |
| A.33.P3406722  | 2.567 | 2.567 | up | ABCD1                | Home sapiens ATP-binding cassette, sub-family D (ABC), member 1 (ABCD1), transcript variant 2, mRNA [NM.001184941]            |
| A.33.P148556   | 2.565 | 2.565 | up | lnc-RNA1987-2        | Home sapiens ATP-binding cassette, sub-family D (ABC), member 1 (ABCD1), transcript variant 2, mRNA [NM.001184941]            |
| A.33.P30003747 | 2.565 | 2.565 | up | lnc-RNA1987-2        | Home sapiens ATP-binding cassette, sub-family D (ABC), member 1 (ABCD1), transcript variant 2, mRNA [NM.001184941]            |
| A.33.P3277328  | 2.565 | 2.565 | up | lnc-RNA1987-2        | Home sapiens ATP-binding cassette, sub-family D (ABC), member 1 (ABCD1), transcript variant 2, mRNA [NM.001184941]            |
| A.33.P327860   | 2.565 | 2.565 | up | lnc-RNA1987-2        | Home sapiens ATP-binding cassette, sub-family D (ABC), member 1 (ABCD1), transcript variant 2, mRNA [NM.001184941]            |
| A.33.P327860   | 2.565 | 2.565 | up | lnc-RNA1987-2        | Home sapiens ATP-binding cassette, sub-family D (ABC), member 1 (ABCD1), transcript variant 2, mRNA [NM.001184941]            |
| A.33.P324332   | 2.563 | 2.563 | up | SPRY2B               | Home sapiens sprouty homologue 2, beta (SPRY2B), transcript variant 10, mRNA [NM.001271448]                                   |
| A.33.P3330336  | 2.562 | 2.562 | up | HDAC9                | Home sapiens signal regulatory protein gamma (SPRYG), transcript variant 3, mRNA [NM.001039568]                               |
| A.23.P404102   | 1.367 | 2.562 | up | lnc-PP1D-1           | Home sapiens histone deacetylase 9 (HDAC9), transcript variant 3, mRNA [NM.014707]  |
| A.21.P0003789  | 2.560 | 2.560 | up | RAI1                 | LNGpedia, lincRNA lnc-PP1D-1, lincRNA [lnc-PP1D-1]  |
| A.33.P320493   | 2.559 | 2.559 | up | ALNP                 | Home sapiens mRNA for retinoic-acid induced protein 1 (RAI1) gene, [A.271790]   |
| A.23.P160557   | 1.356 | 2.559 | up | FAM84B               | Home sapiens aurora kinase A and mean interacting protein (AUNIP), transcript variant 4, mRNA [NM.024037]                     |
| A.24.P329487   | 2.559 | 2.559 | up | lnc-RP11-68880.2.1-1 | Home sapiens aurora kinase A and mean interacting protein (AUNIP), transcript variant 4, mRNA [NM.024037]                     |
| A.33.P3404889  | 2.559 | 2.559 | up | lnc-RP11-68880.2.1-1 | Home sapiens aurora kinase A and mean interacting protein (AUNIP), transcript variant 4, mRNA [NM.024037]                     |
| A.24.P201153   | 1.355 | 2.559 | up | lnc-MOC53-3          | lnc-RP11-68880.2.1-1, lncRNA [lnc-RP11-68880.2.1-1]   |
| A.21.P0068975  | 2.558 | 2.558 | up | lnc-RIT2-1           | Home sapiens tight junction protein 2 (TJP2), transcript variant 2, mRNA [NM.201829]  |
| A.21.P006951   | 2.557 | 2.557 | up | lnc-RIT2-1           | Home sapiens tight junction protein 2 (TJP2), transcript variant 2, mRNA [NM.201829]  |
| A.22.P00018160 | 2.557 | 2.557 | up | LOC101927480         | LNGpedia, lincRNA lnc-RIT2-1, lincRNA [lnc-RIT2-1]  |
| A.22.P00022658 | 2.555 | 2.555 | up | ENL5                 | BX114671 Source tests NHT Home sapiens cDNA clone IMAGE5981094495, mRNA sequence [BX114671]                                   |
| A.33.P323058   | 2.555 | 2.555 | up | ORF724               | PREDICTED: Home sapiens uncharacterized LOC101927490 (LOC101927490), mRNA [XR.244728]   |
| A.33.P161110   | 1.353 | 2.555 | up | LIP                  | Home sapiens actinoderm microtubule associated protein like 5 (EML5), mRNA [NM.183387]  |
| A.33.P323058   | 2.554 | 2.554 | up | lnc-KAAS1467-1       | Home sapiens actinoderm microtubule associated protein like 5 (EML5), mRNA [NM.183387]  |
| A.33.P323058   | 2.554 | 2.554 | up | lnc-SUMO1-1          | Home sapiens leukemia inhibitory factor (LIP), transcript variant 1, mRNA [NM.001079955]                                      |
| A.21.P0001295  | 2.552 | 2.552 | up | BS11                 | Home sapiens leukemia inhibitory factor (LIP), transcript variant 1, mRNA [NM.001079955]                                      |
| A.23.P2925     | 2.551 | 2.551 | up | PHACTR4              | LNGpedia, lincRNA lnc-KAAS1467-1, lincRNA [lnc-KAAS1467-1]  |
| A.33.P3222664  | 1.351 | 2.551 | up | ANAPC1               | Home sapiens bone marrow, stromal cell antigen 1 (BST1), mRNA [NM.004334]   |
| A.33.P3221611  | 2.550 | 2.550 | up | ANAPC1               | Home sapiens phosphatase and activator regulator 4 (PHACTR4), transcript variant 1, mRNA [NM.001048183]                       |
| A.22.P12104    | 1.351 | 2.550 | up | lnc-ABHD12B-3        | Home sapiens anaphase promoting complex subunit 1 (ANAPC1), transcript variant 1, mRNA [NM.022882]                            |
| A.22.P00000181 | 1.350 | 2.550 | up | lnc-RIG1-1           | LNGpedia, lincRNA lnc-ABHD12B-3, lincRNA [lnc-ABHD12B-3]  |
| A.22.P0008224  | 1.350 | 2.549 | up | MAPKAPK3             | LNGpedia, lincRNA lnc-RIG1-1, lincRNA [lnc-RIG1-1]  |
| A.33.P314684   | 2.549 | 2.549 | up | MAPKAPK3             | Home sapiens mitogen-activated protein kinase-activated protein kinase 3 (MAPKAPK3), transcript variant 3, mRNA [NM.004835]   |
| A.33.P338657   | 2.548 | 2.548 | up | HE52                 | teratocarcinoma-derived growth factor 1, pseudogene 2 (Source:HGNC Symbol;Acc:HGNC:11702) [ENST00000413322]                   |
| A.33.P338657   | 2.548 | 2.548 | up | HE52                 | Family BHLH transcription factor 2 (Source:HGNC Symbol;Acc:HGNC:16095) [ENST00000378986]                                      |
| A.33.P337685   | 2.547 | 2.547 | up | FRAS1                | PREDICTED: Home sapiens uncharacterized LOC102724895 (LOC102724895), mRNA [XR.43013]  |
| A.21.P0006534  | 2.546 | 2.546 | up | FRAS1                | Home sapiens Frase1 extracellular matrix complex subunit 1 (FRAS1), transcript variant 1, mRNA [NM.028074]                    |
| A.22.P0001799  | 1.348 | 2.546 | up | GN14                 | Home sapiens Frase1 extracellular matrix complex subunit 1 (FRAS1), transcript variant 1, mRNA [NM.028074]                    |
| A.33.P327860   | 1.347 | 2.544 | up | Top13                | Home sapiens potassium channel, voltage gated, cell surface, subfamily H, member 4 (KCNH4), mRNA [NM.0072285]                 |
| A.33.P32607358 | 2.544 | 2.544 | up | Top13                | Home sapiens tyrosyl thiamine receptor, interactor 13 (TYR13), transcript variant 2, mRNA [NM.001189260]                      |







|                |       |       |                    |    |  |
|----------------|-------|-------|--------------------|----|--|
| A.24.P25148    | 1.295 | 2.454 | HST1/H2B.J         | up | Homo sapiens histone cluster 1, H2B (HST1/H2B.J), mRNA [NM 021038]   |
| A.23.P318300   | 1.295 | 2.454 | ZAK                | up | Homo sapiens zeta alpha motif and leucine zipper containing kinase A/ZK, transcript variant 2, mRNA [NM 133646]                              |
| A.33.P222201   | 1.295 | 2.454 | FAM197A            | up | Homo sapiens family with sequence similarity 157, member A (FAM197A), mRNA [NM 01149248]   |
| A.33.P84565    | 2.453 | 2.454 | POLR3D             | up | Homo sapiens polymerase (RNA) III (DNA directed) polypeptide D, 44kDa (POLR3D), mRNA [NM 001722]   |
| A.24.P142118   | 1.294 | 2.453 | THBS1              | up | Homo sapiens thrombospondin 1 (THBS1), mRNA [NM 003296]  |
| A.23.P424513   | 2.452 | 2.453 | RANBP9             | up | Homo sapiens RAN binding protein 9 (RANBP9), mRNA [NM 006483]  |
| A.22.P00009338 | 2.452 | 2.452 | LOC101927975       | up | PREDICTED: homo sapiens uncharacterized LOC101927975, mRNA [XR 246372]   |
| A.33.P3340718  | 1.294 | 2.452 | KDM8A              | up | Homo sapiens lysine (K)-specific demethylase 8A (KDM8A), transcript variant 1, mRNA [NM 007231415]   |
| A.23.P153457   | 1.294 | 2.452 | SLC39A3            | up | Homo sapiens solute carrier family 39, member 3 (SLC39A3), mRNA [NM 006941]  |
| A.22.P00000101 | 1.292 | 2.452 | INR2               | up | Homo sapiens inositol 1,4,5-bisphosphate 3-kinase, non-receptor 2 (INR2), transcript variant 1, mRNA [NM 005781]                             |
| A.33.P3326686  | 1.293 | 2.450 | DEAF1              | up | Homo sapiens deafness associated factor 1, 2 (DEAF1), transcript variant 1, mRNA [NM 001268404]  |
| A.33.P3326686  | 1.293 | 2.450 | DEAF2              | up | Homo sapiens deafness associated factor 1, 2 (DEAF2), transcript variant 2, mRNA [NM 020180]   |
| A.33.P253872   | 1.293 | 2.450 | CELE4              | up | Homo sapiens C/EBP family member 4 (CELE4), transcript variant 1, mRNA [NM 020180]   |
| A.33.P3326686  | 1.293 | 2.450 | PHLDB2             | up | Homo sapiens pleckstrin homology-like domain family B, member 2 (PHLDB2), transcript variant 1, mRNA [NM 001134438]                          |
| A.33.P3326686  | 1.293 | 2.450 | PACSIN2            | up | Homo sapiens protein kinase C and casein kinase substrate in neurons 2 (PACSIN2), transcript variant 2, mRNA [NM 007229]                     |
| A.23.P10785    | 1.293 | 2.450 | VITIA              | up | Homo sapiens vesicle transport through interaction with t-SNAREs, 1A (VITIA), mRNA [NM 148206]   |
| A.23.P21527    | 1.292 | 2.449 | DNAJB9             | up | Homo sapiens DNAJ (Hsp40) homolog, subfamily B, member 9 (DNAJB9), transcript variant 2, mRNA [NM 005494]                                    |
| A.21.P0008985  | 1.292 | 2.448 | INC-C20orf197-1    | up | LOC101927134, lincRNA [inc-C20orf197-1]  |
| A.21.P0008985  | 1.292 | 2.448 | INC-MEOX1-1        | up | LOC101927134, lincRNA [inc-MEOX1-1]  |
| A.22.P33529    | 2.448 | 2.448 | GAB1               | up | Homo sapiens GAB2-associated binding protein 1 (GAB1), transcript variant 1, mRNA [NM 207123]  |
| A.22.P00018439 | 2.447 | 2.447 | LOC101927134       | up | PREDICTED: homo sapiens uncharacterized LOC101927134 (LOC101927134), mRNA [XR 248196]  |
| A.23.P3378055  | 1.291 | 2.447 | TFAP2A             | up | transcription factor AP-2 alpha (activating enhancer binding protein 2 alpha) [Source:HGNC Symbol;Acc:HGNC:11742] [ENST00000478375]          |
| A.33.P3378055  | 1.291 | 2.446 | FAM214A            | up | Homo sapiens family with sequence similarity 214, member A (FAM214A), transcript variant 1, mRNA [NM 019600]                                 |
| A.23.P439991   | 1.290 | 2.446 | FBXO2              | up | Homo sapiens F-box protein 2 (FBXO2), mRNA [NM 017168]   |
| A.21.P0008989  | 1.290 | 2.445 | INC-K20orf-5       | up | LOC101927134, lincRNA [inc-K20orf-5]   |
| A.23.P149892   | 1.290 | 2.445 | CSGALNAC12         | up | Homo sapiens chondroitin sulfate N-acetylgalactosaminyltransferase 2 (CSGALNAC12), mRNA [NM 018590]  |
| A.33.P327174   | 1.289 | 2.443 | GMPFB              | up | Homo sapiens GMP-mannose hydroxylase B (GMPFB), transcript variant 2, mRNA [NM 021971]   |
| A.33.P327174   | 1.289 | 2.443 | GMPFB              | up | Homo sapiens GMP-mannose hydroxylase B (GMPFB), transcript variant 1, mRNA [NM 021971]   |
| A.33.P327174   | 1.289 | 2.443 | GMPFB              | up | Homo sapiens GMP-mannose hydroxylase B (GMPFB), transcript variant 3, mRNA [NM 021971]   |
| A.32.P232830   | 2.441 | 2.441 | LMTK2              | up | Homo sapiens leucine tyrosine kinase 2 (LMTK2), mRNA [NM 014916]   |
| A.33.P3265941  | 2.440 | 2.440 | INC-PARN-3         | up | LOC101927134, lincRNA [inc-PARN-3]   |
| A.23.P147822   | 2.440 | 2.440 | EPSSB.2            | up | Homo sapiens EPSSB-like 2 (EPSSB.2), mRNA [NM 022772]  |
| A.19.P00319761 | 2.440 | 2.440 | one                | up | one  |
| A.22.P00029221 | 2.439 | 2.439 | INC-C10orf10-1     | up | LOC101927134, lincRNA [inc-C10orf10-1]   |
| A.32.P207507   | 2.439 | 2.439 | AEBP3              | up | Homo sapiens ATP-binding cassette, sub-family C (CFTR/MRP), member 3 (AEBP3), transcript variant 1, mRNA [NM 002786]                         |
| A.19.P00319404 | 1.298 | 2.439 | LINC00472          | up | Homo sapiens long intergenic non-protein coding RNA 472 (LINC00472), transcript variant 1, long non-coding RNA [NR 121612]                   |
| A.22.P00071839 | 2.438 | 2.438 | INC-SCRG1-1        | up | LOC101927134, lincRNA [inc-SCRG1-1]  |
| A.21.P00069808 | 2.437 | 2.437 | MMP25              | up | Homo sapiens matrix metalloproteinase 25 (MMP25), mRNA [NM 022488]   |
| A.33.P326724   | 2.437 | 2.437 | PHN2               | up | Homo sapiens latrophilin 2 (PHN2), transcript variant 1, mRNA [NM 017297]  |
| A.33.P746027   | 1.295 | 2.437 | PHN2               | up | Zinc finger protein 29, pseudogene [Source:HGNC Symbol;Acc:HGNC:13869] [ENST00000293587]   |
| A.33.P3267427  | 2.436 | 2.436 | SPTBN2             | up | Homo sapiens spectrin, beta, non-erythrocyte 2 (SPTBN2), mRNA [NM 008948]  |
| A.33.P3267427  | 2.436 | 2.436 | PHCALM             | up | Homo sapiens phosphatidylinositol binding clathrin assembly protein (PHCALM), transcript variant 1, mRNA [NM 007166]                         |
| A.33.P3267427  | 2.436 | 2.436 | PHCALM             | up | Homo sapiens phosphatidylinositol binding clathrin assembly protein (PHCALM), transcript variant 2, mRNA [NM 007166]                         |
| A.33.P3267427  | 2.436 | 2.436 | PHCALM             | up | Homo sapiens phosphatidylinositol binding clathrin assembly protein (PHCALM), transcript variant 3, mRNA [NM 007166]                         |
| A.23.P104632   | 1.293 | 2.433 | MLT2E-AS1          | up | Homo sapiens MLT2E-AS1 (head to head) (MLT2E-AS1), long non-coding RNA [NR 024588]   |
| A.23.P104632   | 1.293 | 2.433 | MLT2E-AS1          | up | Homo sapiens MLT2E-AS1 (head to head) (MLT2E-AS1), long non-coding RNA [NR 024588]   |
| A.23.P104632   | 1.293 | 2.433 | MLT2E-AS1          | up | Homo sapiens MLT2E-AS1 (head to head) (MLT2E-AS1), long non-coding RNA [NR 024588]   |
| A.24.P165106   | 2.432 | 2.432 | SAMD14             | up | Homo sapiens sterile alpha motif domain containing 14 (SAMD14), transcript variant 1, mRNA [NM 174920]                                       |
| A.21.P00030440 | 2.432 | 2.432 | USP94              | up | Homo sapiens ubiquitin specific peptidase 94 (USP94), mRNA [NM 152966]   |
| A.23.P255556   | 2.432 | 2.432 | TRH-2              | up | ALU18 HUMAN (P39193) Alu subfamily SFP sequence contamination warning entry, partial (12), [TH2498486]                                       |
| A.22.P00019741 | 2.431 | 2.431 | INC-TRH-2          | up | LOC101927134, lincRNA [inc-TRH-2]  |
| A.23.P82133    | 2.430 | 2.430 | MTM1               | up | Homo sapiens myotubularin 1 (MTM1), mRNA [NM 000292]   |
| A.32.P20623    | 2.430 | 2.430 | TBD2               | up | Homo sapiens tiger, transposable element, derived 2 (TBD2), mRNA [NM 145715]   |
| A.33.P3422113  | 1.281 | 2.430 | ZSCAN1P1           | up | Homo sapiens zinc finger and SCAN domain containing 12, pseudogene 1 (ZSCAN1P1), non-coding RNA [NR 024063]                                  |
| A.32.P18387    | 1.280 | 2.429 | CELF4              | up | Homo sapiens CELF family member 4 (CELF4), transcript variant 1, mRNA [NM 020180]  |
| A.33.P3267172  | 2.429 | 2.429 | FRS42              | up | RAS p21 protein activator 2 [Source:HGNC Symbol;Acc:HGNC:8872] [ENST00000492898]   |
| A.33.P3267172  | 2.429 | 2.429 | ZAK                | up | Homo sapiens sterile alpha motif and leucine zipper containing kinase A/ZK (ZAK), transcript variant 1, mRNA [NM 016653]                     |
| A.22.P00006998 | 2.429 | 2.429 | INC-ADAM28-1       | up | DA152697 BHAMY2 Homo sapiens cDNA clone BRAMY2010878.5', mRNA sequence [DA152697]  |
| A.22.P00006998 | 2.428 | 2.428 | INC-CTD-205N2421-2 | up | Homo sapiens cDNA FL397474.6, clone TEST202453 [AK093943]  |
| A.22.P00006998 | 2.428 | 2.428 | TCL1B              | up | Homo sapiens T-cell leukemia/lymphoma 1B (TCL1B), mRNA [NM 004918]   |
| A.21.P43695    | 1.278 | 2.426 | PROSER2            | up | SRCL1 CHLRE (GRL1J) CALK protein, partial (3), [TH22682920]  |
| A.21.P43695    | 1.278 | 2.426 | PROSER2            | up | Homo sapiens profilin and serine rich 2 (PROSER2), mRNA [NM 159246]  |
| A.33.P327174   | 1.278 | 2.426 | CY2P12             | up | Homo sapiens cytochrome P450, family 2, subfamily 1, polypeptide C (CY2P12), transcript variant 1, mRNA [NM 000350]                          |
| A.33.P327174   | 1.278 | 2.426 | CY2P12             | up | Homo sapiens cytochrome P450, family 2, subfamily 1, polypeptide C (CY2P12), transcript variant 2, mRNA [NM 015897]                          |
| A.33.P327174   | 1.278 | 2.426 | GNSA1              | up | Homo sapiens GNSA1 (GNSA1), mRNA [NM 001282201]  |
| A.33.P327174   | 1.277 | 2.424 | PRO2652            | up | PREDICTED: homo sapiens uncharacterized protein PR22652 (PRO2652), mice RNA [XE 138845]  |
| A.33.P253872   | 1.277 | 2.424 | LOC229159          | up | PREDICTED: homo sapiens uncharacterized protein ENSP00000381818-like (LOC229159), mRNA [NM 001282201]  |
| A.23.P3342568  | 1.277 | 2.423 | S100A6             | up | Homo sapiens S100 calcium binding protein A6 (S100A6), mRNA [NM 014824]  |
| A.23.P2011714  | 1.277 | 2.423 | LILRA6             | up | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), member 6 (LILRA6), transcript variant 1, mRNA [NM 024318] |
| A.33.P3294471  | 1.277 | 2.423 | UTFI               | up | Homo sapiens undifferentiated embryonic cell transcription factor 1 (UTF1), mRNA [NM 003377]   |
| A.33.P3294471  | 1.277 | 2.423 | PTGER4             | up | Homo sapiens prostaglandin E receptor 4 (catalytic EP-4) (PTGER4), mRNA [NM 000958]  |
| A.24.P56330    | 2.422 | 2.422 | TEX29              | up | Homo sapiens testis expressed 29 (TEX29), transcript variant 2, mRNA [NM 159294]   |
| A.33.P331758   | 1.276 | 2.421 | SDRRC7             | up | Homo sapiens short chain dehydrogenase/reductase family 9C, member 7 (SDRRC7), mRNA [NM 148897]  |
| A.32.P2068811  | 1.276 | 2.421 | LOC100288811       | up | Homo sapiens uncharacterized LOC100288811 (LOC100288811), long non-coding RNA [NR 037631]  |
| A.21.P0007135  | 1.276 | 2.421 | INC-NAALADL1-1     | up | PREDICTED: homo sapiens cell division cycle associated 5 (CDC45), transcript variant 22, mRNA [XM 006273734]                                 |
| A.21.P0007135  | 1.276 | 2.421 | ORMDL2             | up | Homo sapiens ORMDL1/orthologous biosynthesis regulator 2 (ORMDL2), mRNA [NM 001018078]   |
| A.33.P3394198  | 1.275 | 2.419 | PFCS               | up | Homo sapiens polyphosphate synthase (PFCS), transcript variant 2, mRNA [NM 001018078]  |
| A.33.P3394198  | 1.275 | 2.419 | RPBP               | up | Homo sapiens retinoid isoprenoidase 9 pseudogene (RPBP), non-coding RNA [NR 005590]  |
| A.33.P3394198  | 1.275 | 2.419 | MYEOV              | up | Homo sapiens myeloid overexpressed (MYEOV), transcript variant 2, mRNA [NM 138786]   |
| A.33.P3394198  | 1.275 | 2.419 | LOC81              | up | Homo sapiens L1 cell adhesion molecule L1 (LOC81), transcript variant 1, mRNA [NM 000493]  |
| A.32.P169788   | 1.272 | 2.419 | C12orf58           | up | Homo sapiens chromosome 12, open reading frame 58 (C12orf58), transcript variant 1, lincRNA [NM 001170683]                                   |

|                |      |       |      |                  |   |
|----------------|------|-------|------|------------------|---|
| A.23.P230070   | 2414 | 1.271 | 2414 | TFPI             | Homo sapiens tissue factor pathway inhibitor (Lipoprotein-associated coagulation inhibitor) (TFPI), transcript variant 2, mRNA [NM_001032281] |
| A.23.P230696   | 2413 | 1.271 | 2413 | TCGAMI           | Homo sapiens toll-like receptor adaptor molecule 1 (TCGAMI), mRNA [NM_182919]   |
| A.21.P0014785  | 2412 | 1.270 | 2412 | VIM-AS1          | Homo sapiens VIM antisense RNA 1 (VIM-AS1), transcript variant 1, long non-coding RNA [NR_108061]   |
| A.22.P00003312 | 2412 | 1.270 | 2412 |                  | PREDICTED: Homo sapiens lysophosphatidylcholine acyltransferase 2 (LPCAT2), transcript variant X1, mRNA [NM_005250006]                        |
| A.19.P00812340 | 2411 | 1.270 | 2411 | FTL              | Homo sapiens ferritin, light polypeptide (FTL), mRNA [NM_000146]  |
| A.22.P00071965 | 2410 | 1.269 | 2410 |                  |   |
| A.22.P00007098 | 2410 | 1.269 | 2410 | linc-ADAMTS14-1  | linc-ADAMTS14-1 (non-functional), Source:HGNC, Symbol:HGNC:12686, ENST00000380340   |
| A.23.P273500   | 2409 | 1.269 | 2409 | MTMR1            | Homo sapiens myotubularin related protein 1 (MTMR1), mRNA [NM_003828]   |
| A.21.P00091161 | 2408 | 1.268 | 2408 | linc-SUGL2-4     | linc-SUGL2-4 (non-functional), Source:HGNC, Symbol:HGNC:12685, ENST00000380340  |
| A.21.P00091172 | 2408 | 1.268 | 2408 |                  | PREDICTED: Homo sapiens telomeric telomerase-associated antigen H2A25a (LOC100506363), transcript variant X2, misc RNA [XR_244021]            |
| A.21.P00091193 | 2408 | 1.268 | 2408 |                  | PREDICTED: Homo sapiens uncharacterized LOC101929449 (LOC101929449), mRNA [XP_241286]   |
| A.33.P2300398  | 2407 | 1.268 | 2407 | LOC100606828     |   |
| A.33.P2300398  | 2407 | 1.268 | 2407 |                  | linc-ADAMTS14-1 (non-functional), Source:HGNC, Symbol:HGNC:12686, ENST00000380340   |
| A.22.P00016385 | 2406 | 1.267 | 2406 | GLT1B2           | linc-ADAMTS14-1 (non-functional), Source:HGNC, Symbol:HGNC:12686, ENST00000380340   |
| A.23.P248186   | 2406 | 1.267 | 2406 |                  | ALU1 (HUMAN) (93.188) Alu subfamily 1, sequence containing variable retro repeats (5S) [H26284.938]   |
| A.33.P23014785 | 2406 | 1.267 | 2406 | LINPROT          | Homo sapiens glycosyltransferase 8 domain containing 2 (GLT8D2), mRNA [NM_031302]   |
| A.22.P00017166 | 2405 | 1.266 | 2405 | LINC01397        | Homo sapiens cDNA FL37482 (c16 clone BRAWH201384), AK094801   |
| A.23.P145006   | 2404 | 1.266 | 2404 | SCGB3A2          | Homo sapiens long interspersed non-protein coding RNA 1397 (LINC01397), long non-coding RNA [NR_126382]                                       |
| A.33.P3282811  | 2403 | 1.265 | 2403 | ARL17B           | Homo sapiens secretoglycin, family 3A, member 2 (SCGB3A2), mRNA [NM_054023]   |
| A.22.P00026373 | 2403 | 1.265 | 2403 | ASB9             | Homo sapiens ADP-ribosylation factor-like 17B (ARL17B), transcript variant 1, mRNA [NM_001030685]   |
| A.33.P125643   | 2403 | 1.265 | 2403 |                  | Homo sapiens clone P3 Tere2D1, testicular carcinoma mRNA [AF279783]   |
| A.33.P3406844  | 2402 | 1.264 | 2402 | HOOK1            | Homo sapiens ankyrin repeat and SOCS box containing 8 (ASB9), transcript variant 1, mRNA [NM_001031738]                                       |
| A.21.P0012863  | 2402 | 1.264 | 2402 | INT56            | Homo sapiens integrator complex subunit 6 (INT56), transcript variant 1, mRNA [NM_015888]   |
| A.33.P3412722  | 2401 | 1.264 | 2401 | SNX8             | Homo sapiens sorting nexin 8 (SNX8), mRNA [NM_015321]   |
| A.21.P0001471  | 2400 | 1.263 | 2400 | linc-ZBTB17-2    | linc-ZBTB17-2 (non-functional), Source:HGNC, Symbol:HGNC:12684, ENST00000380340   |
| A.33.P2306892  | 2400 | 1.263 | 2400 | GDNF             | Homo sapiens glial cell derived neurotrophic factor (GDNF), transcript variant 3, mRNA [NM_001190468]   |
| A.24.P3102671  | 2400 | 1.263 | 2400 | NHLRC4           | Homo sapiens NHL repeat containing 4 (NHLRC4), transcript variant 2, mRNA [NM_176677]   |
| A.33.P340670   | 2399 | 1.263 | 2399 | SLC22A10         | Homo sapiens ABC protein, organelle 2, non-receptor (SLC22A10), transcript variant 1, mRNA [NM_001190601]                                     |
| A.33.P340670   | 2399 | 1.263 | 2399 | SLC22A10         | Homo sapiens ABC protein, organelle 2, non-receptor (SLC22A10), transcript variant 2, mRNA [NM_001190601]                                     |
| A.33.P32817659 | 2398 | 1.262 | 2398 | linc-DNAH1-1     | linc-DNAH1-1 (non-functional), Source:HGNC, Symbol:HGNC:12683, ENST00000380340  |
| A.33.P2322669  | 2398 | 1.262 | 2398 | SPHK1            | Homo sapiens sphingosine kinase 1 (SPHK1), transcript variant 2, mRNA [NM_182865]   |
| A.21.P0005138  | 2398 | 1.262 | 2398 | linc-POP1-1      | linc-POP1-1 (non-functional), Source:HGNC, Symbol:HGNC:12682, ENST00000380340   |
| A.22.P00016385 | 2397 | 1.262 | 2397 | LOC101060885     | Homo sapiens uncharacterized LOC101060885 (LOC101060885), long non-coding RNA [NR_110178]   |
| A.33.P23219785 | 2397 | 1.261 | 2397 | SCWAHC           | Homo sapiens sororin domain repeat domain family member C (SCWAHC), mRNA [NM_023016]  |
| A.23.P76851    | 2397 | 1.261 | 2397 | PRMT5            | Homo sapiens protein arginine methyltransferase 5 (PRMT5), transcript variant 2, mRNA [NM_001039619]  |
| A.22.P0000722  | 2396 | 1.261 | 2396 |                  |   |
| A.21.P0014821  | 2396 | 1.261 | 2396 | TBC1D3P1-DHX40P1 | Homo sapiens TBC1D3P1 repeat region, transcribed pseudogene (TBC1D3P1-DHX40P1), non-coding RNA [NR_029242]                                    |
| A.22.P00018229 | 2396 | 1.261 | 2396 | CATP-AS2         | Homo sapiens CATP antisense RNA 2 (CATP-AS2), long non-coding RNA [NR_125771]   |
| A.33.P338510   | 2396 | 1.260 | 2396 | SYNE1            | Homo sapiens spectrin repeat containing, nuclear envelope 1 (SYNE1), transcript variant 2, mRNA [NM_033071]                                   |
| A.21.P0014633  | 2396 | 1.260 | 2396 | LOC100505824     | PREDICTED: Homo sapiens uncharacterized LOC100505824 (LOC100505824), mRNA [XR_111915]   |
| A.33.P2364609  | 2395 | 1.260 | 2395 |                  | melanoma antigen family D, 4B [Source:HGNC Symbol:HGNC:2380] [ENST00000481098]  |
| A.33.P236573   | 2393 | 1.259 | 2393 | ITGB2            | Homo sapiens integrin, beta 2 (complement component 3 receptor 3 and 4 subunit) (ITGB2), transcript variant 1, mRNA [NM_000211]               |
| A.33.P2306337  | 2393 | 1.259 | 2393 | SLC22A3          | Homo sapiens solute carrier family 23, member 3 (SLC22A3), transcript variant 1, mRNA [NM_144712]   |
| A.23.P462718   | 2393 | 1.259 | 2393 | UPH1             | Homo sapiens lipid, member 1 (UPH1), mRNA [NM_139248]   |
| A.33.P236861   | 2393 | 1.258 | 2393 | PAK1             | Homo sapiens p21-activated kinase 1 (PAK1), transcript variant 1, long non-coding RNA [NR_110054]   |
| A.33.P236861   | 2393 | 1.258 | 2393 |                  | linc-ADAMTS14-1 (non-functional), Source:HGNC, Symbol:HGNC:12686, ENST00000380340   |
| A.22.P00202881 | 2391 | 1.258 | 2391 | LOC101060883     | linc-ADAMTS14-1 (non-functional), Source:HGNC, Symbol:HGNC:12686, ENST00000380340   |
| A.33.P2371651  | 2391 | 1.258 | 2391 | HLA-DP31         | Homo sapiens major histocompatibility complex, class II, DP beta 1 (HLA-DP31), mRNA [NM_002121]   |
| A.33.P2371651  | 2391 | 1.258 | 2391 | HST1L4H          | Homo sapiens histone cluster 1, H4h, mRNA (GENE ID: 73304), [EC0110296]   |
| A.21.P0014172  | 2390 | 1.257 | 2390 | ZNF432           | Homo sapiens zinc finger protein 432 (ZNF432), mRNA [NM_014660]   |
| A.23.P208210   | 2390 | 1.257 | 2390 | MAGI1            | Homo sapiens membrane associated guanylate kinase, WW and PDZ domain containing 1 (MAGI1), transcript variant 1, mRNA [NM_015520]             |
| A.33.P2306930  | 2390 | 1.257 | 2390 | SCUBE1           | Homo sapiens signal peptide, CUB domain, EGF-like 1 [Source:HGNC Symbol:HGNC:1344] [ENST00000308085]  |
| A.33.P2480395  | 2388 | 1.256 | 2388 | CSRP1            | Homo sapiens cysteine and glycine-rich protein 1 (CSRP1), transcript variant 1, mRNA [NM_040751]  |
| A.23.P74359    | 2388 | 1.256 | 2388 | HYALP1           | Homo sapiens hyaluronoglucosaminidase pseudogene 1 (HYALP1), non-coding RNA [NR_027231]   |
| A.33.P2385647  | 2387 | 1.255 | 2387 | CFCD2            | Homo sapiens CF calcium-dependent domain containing 2 (CFCD2), transcript variant 1, mRNA [NM_015900]   |
| A.24.P340149   | 2386 | 1.254 | 2386 | PPP2R8B          | Homo sapiens protein phosphatase 2, regulatory subunit B, beta (PPP2R8B), mRNA [NM_008244]  |
| A.23.P35786    | 2385 | 1.254 | 2385 | SLC22A14         | Homo sapiens solute carrier family 22, member 14 (SLC22A14), mRNA [NM_004803]   |
| A.33.P287703   | 2385 | 1.254 | 2385 | GABRI1           | gamma-aminobutyric acid (GABA) A receptor, beta 1 [Source:HGNC Symbol:HGNC:468] [ENST00000391982]   |
| A.33.P3312444  | 2385 | 1.254 | 2385 | RHT75            | Homo sapiens keratin 75, type II (RHT75), mRNA [NM_004893]  |
| A.33.P46854    | 2382 | 1.253 | 2382 | THO              | linc-Rho guanine nucleotide exchange factor [Source:HGNC Symbol:HGNC:12683] [ENST0000020511]  |
| A.33.P2415500  | 2382 | 1.252 | 2382 | ANTXR2           | Homo sapiens anthrax toxin receptor 2 (ANTXR2), transcript variant 1, mRNA [NM_168172]  |
| A.24.P371744   | 2381 | 1.252 | 2381 | LOC101929451     | Homo sapiens ZNF492 antisense RNA 1 (ZNF492-AS1), long non-coding RNA [NR_038629]   |
| A.33.P230739   | 2380 | 1.251 | 2380 | LOC101929451     | Homo sapiens long non-coding RNA 13918 (LINC013918), long non-coding RNA [NR_038629]  |
| A.32.P102035   | 2378 | 1.250 | 2378 | SPDYA            | Homo sapiens protein tyrosine phosphatase, cytosolic, member A (SPDYA), transcript variant 2, mRNA [NM_001026779]                             |
| A.33.P2368482  | 2378 | 1.250 | 2378 |                  |   |
| A.33.P2368482  | 2378 | 1.250 | 2378 | TMEM120B         | Homo sapiens transmembrane protein 120B (TMEM120B), mRNA [NM_001036825]   |
| A.33.P2368481  | 2378 | 1.250 | 2378 |                  |   |
| A.33.P23012176 | 2377 | 1.249 | 2377 | LOC101929888     | PREDICTED: Homo sapiens uncharacterized LOC101929888 (LOC101929888), mRNA [XR_238272]   |
| A.33.P2303865  | 2377 | 1.249 | 2377 | FAM120C          | Homo sapiens family with sequence similarity 120C (FAM120C), transcript variant 2, mRNA [NM_188456]   |
| A.32.P65533    | 2377 | 1.249 | 2377 | ZC3H12D          | Homo sapiens zinc finger CCHC-type containing 12D (ZC3H12D), mRNA [NM_207360]   |
| A.22.P00009395 | 2377 | 1.249 | 2377 | SSSCA1-AS1       | Homo sapiens SSSCA1 antisense RNA 1 (head to head) (SSSCA1-AS1), long non-coding RNA [NR_038923]  |
| A.33.P2304403  | 2376 | 1.249 | 2376 | ZMIZ1            | Homo sapiens zinc finger, MIZ-type containing 1 (ZMIZ1), mRNA [NM_020338]   |
| A.33.P3362572  | 2376 | 1.249 | 2376 |                  |   |
| A.33.P3260575  | 2376 | 1.249 | 2376 | CFRRAM           | Homo sapiens cerebral endothelial cell adhesion molecule (CFRRAM), transcript variant 1, mRNA [NM_016174]                                     |
| A.33.P3260575  | 2376 | 1.249 | 2376 | MDIP1            | Homo sapiens MDI interacting protein 1 (MDIP1), transcript variant 1, mRNA [NM_021242]  |
| A.33.P3217465  | 2375 | 1.248 | 2375 | linc-HDDC2-2     | linc-HDDC2-2 (non-functional), Source:HGNC, Symbol:HGNC:12681, ENST00000380340  |
| A.33.P3356881  | 2374 | 1.248 | 2374 | ORF51            | Homo sapiens oligonucleotide-cytosine-rich binding site containing 1 (ORF51), mRNA [NM_024928]  |
| A.23.P46852    | 2374 | 1.247 | 2374 | ACSG2            | Homo sapiens acyl-CoA synthetase bubblegum family member 2 (ACSG2), transcript variant 2, mRNA [NM_038924]                                    |
| A.23.P31050    | 2373 | 1.247 | 2373 | PLEKHG2          | Homo sapiens pleckstrin homology domain containing, family G (with Pleckstrin domain) member 2 (PLEKHG2), mRNA [NM_022638]                    |
| A.23.P235363   | 2373 | 1.247 | 2373 | OST1             | Homo sapiens GDP-ubiquitin synthase (osteopontin-associated ubiquitin transferase) 1 (OST1), mRNA [NM_001263]                                 |
| A.23.P101585   | 2373 | 1.247 | 2373 | RKRT1            | Homo sapiens kallikrein-related peptidase 11 (RKRT1), transcript variant 2, mRNA [NM_144947]  |









|                |       |       |       |              |    |       |       |       |  |
|----------------|-------|-------|-------|--------------|----|-------|-------|-------|--|
| A.23.P1616.15  | 2.207 | 1.142 | 2.207 | POLA2        | up | 2.207 | 1.142 | 2.207 | polymerase (DNA directed), alpha 2, accessory subunit [Source:HGNC Symbol;Acc:HGNC:30073]; [ENST00000534793]                             |
| A.22.P00080094 | 2.205 | 1.141 | 2.205 | up           | up | 2.205 | 1.141 | 2.205 |  |
| A.33.P231457.4 | 2.205 | 1.141 | 2.205 | GNAS         | up | 2.205 | 1.141 | 2.205 | Home sapiens GNAS complex locus (GNAS), transcript variant 7, mRNA [NM_001077488]  |
| A.24.P418809   | 2.205 | 1.141 | 2.205 | up           | up | 2.205 | 1.141 | 2.205 |  |
| A.33.P3321882  | 2.204 | 1.140 | 2.204 | lnc-JOSD1-1  | up | 2.204 | 1.140 | 2.204 | lncRNA linc-JOSD1-1, lincRNA [nc-JOSD1-1]  |
| A.22.P00008337 | 2.203 | 1.139 | 2.203 | ADAM9        | up | 2.203 | 1.139 | 2.203 | Home sapiens ADAM metalloproteinase domain 9 (ADAM9), transcript variant 1, mRNA [NM_003816]   |
| A.33.P3340769  | 2.202 | 1.138 | 2.202 | lnc-GPR5-2   | up | 2.202 | 1.138 | 2.202 | lncRNA linc-GPR5-2, lincRNA [nc-GPR5-2]  |
| A.22.P0007297  | 2.201 | 1.138 | 2.201 | COL4A3BP     | up | 2.201 | 1.138 | 2.201 | Home sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_00130105]       |
| A.33.P3270638  | 2.201 | 1.138 | 2.201 | STAG3        | up | 2.201 | 1.138 | 2.201 | Home sapiens stromal antigen 3 (STAG3), transcript variant 1, mRNA [NM_02447]  |
| A.33.P326963   | 2.199 | 1.137 | 2.199 | lnc-DNAH-5   | up | 2.199 | 1.137 | 2.199 | lncRNA linc-DNAH-5, lincRNA [nc-DNAH-5]  |
| A.21.P0006243  | 2.198 | 1.136 | 2.198 | RAB11FPB5    | up | 2.198 | 1.136 | 2.198 | Home sapiens RAB11 family trafficking protein 5 class 1 (RAB11FPB5), mRNA [NM_015470]  |
| A.23.P42846    | 2.188 | 1.136 | 2.188 | C1orf10      | up | 2.188 | 1.136 | 2.188 | Home sapiens chromosome 1, open reading frame 210 (C1orf10), transcript variant 1, mRNA [NM_182617]                                      |
| A.23.P16657    | 2.197 | 1.135 | 2.197 | IGHMBP2      | up | 2.197 | 1.135 | 2.197 | Home sapiens immunoglobulin mu binding protein 2 (IGHMBP2), mRNA [NM_002180]   |
| A.33.P3332989  | 2.197 | 1.135 | 2.197 | STBD1        | up | 2.197 | 1.135 | 2.197 | Home sapiens starch binding domain 1 (STBD1), mRNA [NM_003843]   |
| A.23.P393713   | 2.196 | 1.134 | 2.196 | PLAG9        | up | 2.196 | 1.134 | 2.196 | DBP989210 TEST14 Home sapiens cDNA clone TEST14026681.5, mRNA sequence [DB989210]  |
| A.22.P254079   | 2.195 | 1.134 | 2.195 | PLAG9        | up | 2.195 | 1.134 | 2.195 | placenta-specific 9 [Source:HGNC Symbol;Acc:HGNC:19295]; [ENST00000372868]   |
| A.33.P3252185  | 2.193 | 1.133 | 2.193 | LBR          | up | 2.193 | 1.133 | 2.193 | Home sapiens leukin B receptor (LBR), transcript variant 2, mRNA [NM_178786]   |
| A.23.P34066    | 2.193 | 1.133 | 2.193 | MAFAK2       | up | 2.193 | 1.133 | 2.193 | Home sapiens mitogen-activated protein kinase kinase kinase 2 (MAFAK2), mRNA [NM_004579]   |
| A.24.P287075   | 2.193 | 1.133 | 2.193 | TMEM120A     | up | 2.193 | 1.133 | 2.193 | Home sapiens transmembrane protein 120A (TMEM120A), mRNA [NM_031925]   |
| A.33.P259652   | 2.192 | 1.133 | 2.192 | C374         | up | 2.192 | 1.133 | 2.192 | Home sapiens C374 molecule, major histocompatibility complex, class II invariant chain (C374), transcript variant 3, mRNA [NM_001025158] |
| A.33.P310655   | 2.192 | 1.133 | 2.192 | ZC3H4VIL1    | up | 2.192 | 1.133 | 2.192 | Home sapiens zinc finger CCHC-type, antiviral 1-like (ZC3H4VIL1), mRNA [NM_006800]   |
| A.24.P2523759  | 2.191 | 1.132 | 2.191 | SHR          | up | 2.191 | 1.132 | 2.191 | Home sapiens short stature homeobox containing protein 3A (SHR), mRNA [NM_003678]  |
| A.33.P326981   | 2.190 | 1.131 | 2.190 | SYAP1        | up | 2.190 | 1.131 | 2.190 | Home sapiens synapse associated protein 1 (SYAP1), transcript variant 2, mRNA [NM_002620]  |
| A.23.P38380    | 2.189 | 1.131 | 2.189 | KRT1BP3      | up | 2.189 | 1.131 | 2.189 | Home sapiens keratin 18 associated protein 3 (KRT1BP3), non-coding RNA [NR_028383]   |
| A.21.P0011837  | 2.189 | 1.130 | 2.189 | TDKHK        | up | 2.189 | 1.130 | 2.189 | Home sapiens tudor and KH domain containing (TDKHK), transcript variant 3, mRNA [NM_008882]  |
| A.23.P26851    | 2.187 | 1.129 | 2.187 | FANCA        | up | 2.187 | 1.129 | 2.187 | Home sapiens Fanconi anemia, complementation group A (FANCA), transcript variant 1, mRNA [NM_000135]                                     |
| A.23.P140296   | 2.187 | 1.129 | 2.187 | PNP          | up | 2.187 | 1.129 | 2.187 | Home sapiens purine nucleoside phosphorylase (PNP), mRNA [NM_000270]   |
| A.33.P3421515  | 2.187 | 1.129 | 2.187 | HCP5         | up | 2.187 | 1.129 | 2.187 | Home sapiens HLA complex P5, non-protein coding (HCP5), long non-coding RNA [NR_040682]  |
| A.22.P00089336 | 2.186 | 1.128 | 2.186 | FAXDC2       | up | 2.186 | 1.128 | 2.186 | Home sapiens fatty acid hydroxylase domain containing 2 (FAXDC2), mRNA [NM_032385]   |
| A.19.P00318375 | 2.185 | 1.128 | 2.185 | LOC148868    | up | 2.185 | 1.128 | 2.185 | Home sapiens uncharacterized LOC148868, long non-coding RNA [NR_028817]  |
| A.23.P5601     | 2.185 | 1.127 | 2.185 | DDK1         | up | 2.185 | 1.127 | 2.185 | Home sapiens docking protein 1, 62kDa (downstream of tyrosine kinase 1) (DDK1), transcript variant 1, mRNA [NM_001381]                   |
| A.23.P121334   | 2.185 | 1.127 | 2.185 | DDIT3        | up | 2.185 | 1.127 | 2.185 | Home sapiens DNA damage-inducible transcript 3 (DDIT3), transcript variant 5, mRNA [NM_004803]   |
| A.32.P146659   | 2.184 | 1.127 | 2.184 | ATP8V02Z-AS1 | up | 2.184 | 1.127 | 2.184 | Home sapiens ATP8V02Z antisense RNA 1 (ATP8V02Z-AS1), long non-coding RNA [NR_027960]  |
| A.22.P0022344  | 2.184 | 1.127 | 2.184 | LOC393982    | up | 2.184 | 1.127 | 2.184 | Home sapiens uncharacterized LOC393982 (LOC393982), mRNA [NM_001257177]  |
| A.24.P75190    | 2.184 | 1.127 | 2.184 | HEP          | up | 2.184 | 1.127 | 2.184 | Home sapiens hemoglobin, delta (HBD), mRNA [NM_000519]   |
| A.22.P0004690  | 2.184 | 1.126 | 2.184 | LOC100506528 | up | 2.184 | 1.126 | 2.184 | lncRNA linc-LOC100506528, lincRNA [nc-LOC100506528]  |
| A.33.P326632   | 2.183 | 1.126 | 2.183 | MDM1         | up | 2.183 | 1.126 | 2.183 | Home sapiens MDM1-like 1 (MDM1-like 1), transcript variant 11, mRNA [NM_0010204142]  |
| A.33.P327160   | 2.182 | 1.126 | 2.182 | MRP          | up | 2.182 | 1.126 | 2.182 | Home sapiens methyl basic protein (MRP), transcript variant 1, mRNA [NM_0010210101]  |
| A.22.P0002008  | 2.181 | 1.125 | 2.181 | LOC10199374  | up | 2.181 | 1.125 | 2.181 | 22q13.31 Matern. Normalized Human Islet 4-N-HIS 1 Home sapiens cDNA clone IMAGE6138844.5, mRNA sequence [CG823310]                       |
| A.33.P422071   | 2.181 | 1.125 | 2.181 | BGGAL14      | up | 2.181 | 1.125 | 2.181 | Home sapiens LUP-Galacta-GlcAAs beta 1,3-galactosyltransferase, sialosylated 4 (BGGAL14), mRNA [NM_003782]                               |
| A.33.P3216651  | 2.181 | 1.125 | 2.181 | LEF10M       | up | 2.181 | 1.125 | 2.181 | Home sapiens leucine rich transmembrane and O-methyltransferase domain containing 1 (LEF10M), transcript variant 6, mRNA [NM_001146310]  |
| A.24.P114249   | 2.180 | 1.125 | 2.180 | GALNT3       | up | 2.180 | 1.125 | 2.180 | Home sapiens polypeptide N-acetylgalactosaminyltransferase 3 (GALNT3), mRNA [NM_004482]  |
| A.22.P00009162 | 2.180 | 1.124 | 2.180 | LMO7         | up | 2.180 | 1.124 | 2.180 | Home sapiens LIM domain 7 (LMO7), transcript variant 1, mRNA [NM_005358]   |
| A.21.P0013508  | 2.179 | 1.123 | 2.179 | LOC1214424   | up | 2.179 | 1.123 | 2.179 | BROAD Institute lincRNA XLOC1214424, lincRNA [COONS1214424]  |
| A.23.P192420   | 2.179 | 1.123 | 2.179 | GSE1         | up | 2.179 | 1.123 | 2.179 | Home sapiens Gas 1 coiled-coil protein (GSE1), transcript variant 1, mRNA [NM_014815]  |
| A.33.P3381848  | 2.178 | 1.123 | 2.178 | WTIP         | up | 2.178 | 1.123 | 2.178 | Home sapiens Wtms tumor 1 interacting protein (WTIP), mRNA [NM_001088438]  |
| A.33.P3291776  | 2.177 | 1.122 | 2.177 | NANS         | up | 2.177 | 1.122 | 2.177 | Home sapiens N-acetylneuraminic acid synthase (NANS), mRNA [NM_018946]   |
| A.23.P127460   | 2.177 | 1.122 | 2.177 | SIPA1        | up | 2.177 | 1.122 | 2.177 | Home sapiens signal-induced proliferation-associated 1 (SIPA1), transcript variant 1, mRNA [NM_153253]                                   |
| A.33.P3313840  | 2.176 | 1.121 | 2.176 | TMEM105      | up | 2.176 | 1.121 | 2.176 | Home sapiens transmembrane protein 105 (TMEM105), mRNA [NM_178590]   |
| A.32.P919718   | 2.176 | 1.121 | 2.176 | lnc-SSH2-1   | up | 2.176 | 1.121 | 2.176 | lncRNA linc-SSH2-1, lincRNA [nc-SSH2-1]  |
| A.22.P0013430  | 2.175 | 1.121 | 2.175 | LOC100506528 | up | 2.175 | 1.121 | 2.175 | Home sapiens zinc finger protein 974 (ZNF974), mRNA [NM_001001411]   |
| A.34.P226838   | 2.175 | 1.121 | 2.175 | COR10        | up | 2.175 | 1.121 | 2.175 | Home sapiens coronin 10 (COR10), mRNA [NM_001001411]   |
| A.24.P065783   | 2.174 | 1.120 | 2.174 | CORG2        | up | 2.174 | 1.120 | 2.174 | Home sapiens coronin 2 (CORG2), mRNA [NM_004934]   |
| A.33.P338368   | 2.173 | 1.120 | 2.173 | SPEG         | up | 2.173 | 1.120 | 2.173 | Home sapiens SPEG complex locus (SPEG), transcript variant 1, mRNA [NM_001884240]  |
| A.33.P3382921  | 2.173 | 1.120 | 2.173 | GTTN         | up | 2.173 | 1.120 | 2.173 | Home sapiens cordactin (GTTN), transcript variant 3, mRNA [NM_001884240]   |
| A.19.P00801752 | 2.172 | 1.119 | 2.172 | lnc-SKI-2    | up | 2.172 | 1.119 | 2.172 | lncRNA linc-SKI-2, lincRNA [nc-SKI-2]  |
| A.33.P2416682  | 2.172 | 1.119 | 2.172 | Czorf91      | up | 2.172 | 1.119 | 2.172 | Home sapiens chromosome 2, open reading frame 91 (Czorf91), mRNA [NM_00124815]   |
| A.22.P00023932 | 2.171 | 1.119 | 2.171 | LOC100506528 | up | 2.171 | 1.119 | 2.171 | Home sapiens uncharacterized LOC100506528 (LOC100506528), long non-coding RNA [NR_105000]  |
| A.33.P3214412  | 2.171 | 1.118 | 2.171 | ORA5         | up | 2.171 | 1.118 | 2.171 | Home sapiens effluxy receptor, family 4, subfamily A, member 5 (ORA5), mRNA [NM_001055272]   |
| A.23.P197976   | 2.171 | 1.118 | 2.171 | HST1HE       | up | 2.171 | 1.118 | 2.171 | Home sapiens histone deacetylase 1, H1c (HST1HE), mRNA [NM_005821]   |
| A.23.P163455   | 2.171 | 1.118 | 2.171 | MAP1A        | up | 2.171 | 1.118 | 2.171 | Home sapiens microtubule-associated protein 1A (MAP1A), mRNA [NM_002373]   |
| A.23.P16868    | 2.171 | 1.118 | 2.171 | LAMC2        | up | 2.171 | 1.118 | 2.171 | Home sapiens lamin, gamma 2 (LAMC2), transcript variant 2, mRNA [NM_018891]  |
| A.23.P56840    | 2.171 | 1.118 | 2.171 | MT1A         | up | 2.171 | 1.118 | 2.171 | Home sapiens metalloproteinase 1 (MT1A), mRNA [NM_005946]  |
| A.22.P00019255 | 2.169 | 1.117 | 2.169 | lnc-TMED3-1  | up | 2.169 | 1.117 | 2.169 | Home sapiens lincRNA full length, insert, cDNA clone EUROIMAGE 867885 [AI_089713]  |
| A.33.P3297880  | 2.169 | 1.117 | 2.169 | SNCO1        | up | 2.169 | 1.117 | 2.169 | Home sapiens single-pass membrane protein with coiled-coil domain 1 (SNCO1), mRNA [NM_001077857]   |
| A.33.P112640   | 2.168 | 1.117 | 2.168 | PHACTR2      | up | 2.168 | 1.117 | 2.168 | Home sapiens K1 motif and actin regulator 2 (PHACTR2), transcript variant 3, mRNA [NM_001041221]   |
| A.33.P326866   | 2.168 | 1.117 | 2.168 | KANK1        | up | 2.168 | 1.117 | 2.168 | Home sapiens Kank1 and actin regulator 1 (KANK1), transcript variant 3, mRNA [NM_001288877]  |
| A.33.P19732    | 2.168 | 1.116 | 2.168 | PHACTR1      | up | 2.168 | 1.116 | 2.168 | Home sapiens PHD finger protein 1 (PHF1), transcript variant 3, mRNA [NM_024169]   |
| A.23.P427420   | 2.167 | 1.116 | 2.167 | AGA38        | up | 2.167 | 1.116 | 2.167 | Home sapiens arg-30A, polyketide synthase family member 3 (AGA38), mRNA [NM_016584]  |







|                |       |       |       |    |  |
|----------------|-------|-------|-------|----|--|
| A.22.P00014189 | 2.099 | 1.070 | 2.099 | up | Homo sapiens collagen type I alpha 2 (COL1A2), mRNA [NM.001852]  |
| A.23.P452786   | 2.098 | 1.089 | 2.098 | up | inactamin 7 [Source:HGNC Symbol;Acc:HGNC:31877] [ENS:000004042400]   |
| A.33.P3191281  | 2.098 | 1.089 | 2.098 | up | Homo sapiens BTB (POZ) domain containing 9 (BTBD9), transcript variant 1, mRNA [NM.0528893]  |
| A.33.P3191222  | 2.097 | 1.089 | 2.097 | up | PREDICTED: Homo sapiens uncharacterized LOC728175 (LOC728175), mRNA [XM.001129565]   |
| A.22.P00009735 | 2.097 | 1.088 | 2.097 | up | Homo sapiens uncharacterized LOC10192709 (LOC10192709), long non-coding RNA [NR.12822]   |
| A.22.P00019143 | 2.096 | 1.088 | 2.096 | up | Homo sapiens glutaryl-CoA dehydrogenase (GDDH), transcript variant 2, mRNA [NM.013976]   |
| A.33.P3060891  | 2.096 | 1.088 | 2.096 | up | PREDICTED: Homo sapiens uncharacterized LOC10030898 (LOC10030898), misc-RNA [XR.111039]  |
| A.33.P3344293  | 2.096 | 1.087 | 2.096 | up | Homo sapiens family with sequence similarity 118, member A (FAM118A), transcript variant 2, mRNA [NM.017911]                               |
| A.23.P109173   | 2.095 | 1.087 | 2.095 | up | Homo sapiens acyl-CoA dehydrogenase family 7, member 9 (ACAD9), transcript variant 1, mRNA [NM.004563]                                     |
| A.33.P118186   | 2.094 | 1.087 | 2.094 | up | Homo sapiens protein phosphatase 2C, isoform gamma (PPP2C.G), transcript variant 1, mRNA [NM.00162268]                                     |
| A.22.P0002715  | 2.094 | 1.086 | 2.094 | up | Homo sapiens CGM4 (CGM4), transcript variant 1, mRNA [NM.001193180]  |
| A.33.P3254448  | 2.093 | 1.086 | 2.093 | up | Homo sapiens alpha-actinin 4 (ACTN4), transcript variant 1, mRNA [NM.001341961]  |
| A.24.P140405   | 2.093 | 1.085 | 2.093 | up | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 3 (ADAMTS3), mRNA [NM.014243]   |
| A.24.P366337   | 2.092 | 1.085 | 2.092 | up | lysacardiolin acyltransferase 1 [Source:HGNC Symbol;Acc:HGNC:26756] [ENS:00000319406]  |
| A.23.P26362    | 2.092 | 1.084 | 2.092 | up | Homo sapiens solute carrier family 7, member 6, eosinophilic strand (SLC7A6S), mRNA [NM.032178]  |
| A.33.P3377350  | 2.091 | 1.084 | 2.091 | up | Homo sapiens kinesin light chain 3 (KLC3), mRNA [NM.177417]  |
| A.22.P00017634 | 2.091 | 1.084 | 2.091 | up | Homo sapiens kinesin light chain 3 (KLC3), mRNA [NM.177417]  |
| A.23.P263642   | 2.091 | 1.084 | 2.091 | up | LINGO4beta, lincRNA [linc-WNT-1], lincRNA [linc-WNT-1]   |
| A.23.P128817   | 2.091 | 1.084 | 2.091 | up | Homo sapiens cDNA FLJ32294, clone PROS12001796, AK056856 [S]   |
| A.24.P186843   | 2.090 | 1.084 | 2.090 | up | Homo sapiens phosphoenolpyruvate carboxylase 2 (mitchondrial) (PECK2), transcript variant 1, mRNA [NM.004563]                              |
| A.22.P0004325  | 2.090 | 1.083 | 2.090 | up | Homo sapiens elastin (ELN), transcript variant 1, mRNA [NM.000501]   |
| A.23.P10156    | 2.089 | 1.083 | 2.089 | up | Homo sapiens SLC28A4 antisense RNA 1 (SLC28A4-AS1), long non-coding RNA [NR.028137]  |
| A.23.P135489   | 2.089 | 1.083 | 2.089 | up | Homo sapiens charged multivesicular body protein 6 (CHMP6), mRNA [NM.024981]   |
| A.23.P20494    | 2.089 | 1.083 | 2.089 | up | Homo sapiens chloride intracellular channel 4 (CLIC4), mRNA [NM.013943]  |
| A.23.P20494    | 2.089 | 1.083 | 2.089 | up | Homo sapiens N-myc downstream regulated 1 (NDRG1), transcript variant 2, mRNA [NM.000696]  |
| A.21.P0001037  | 2.088 | 1.083 | 2.088 | up | LINGO4beta, lincRNA [linc-NFRS14-1], lincRNA [linc-NFRS14-1]   |
| A.23.P325619   | 2.088 | 1.082 | 2.088 | up | Homo sapiens WAP four-disulfide core domain 3 (WFC3), mRNA [NM.009814]   |
| A.23.P325619   | 2.088 | 1.082 | 2.088 | up | Homo sapiens regulation of protein signaling 9 (RPS9), mRNA [NM.002428]  |
| A.33.P3201449  | 2.088 | 1.082 | 2.088 | up | Homo sapiens myz968b, lincRNA [linc-WNT-1], lincRNA [linc-WNT-1]   |
| A.24.P246847   | 2.083 | 1.082 | 2.083 | up | Homo sapiens myz968b, lincRNA [linc-WNT-1], lincRNA [linc-WNT-1]   |
| A.33.P3234359  | 2.083 | 1.082 | 2.083 | up | Homo sapiens long intragenic non-protein coding RNA 984 (LINC00894), long non-coding RNA [NR.033078]                                       |
| A.33.P3419733  | 2.082 | 1.082 | 2.082 | up | Homo sapiens DnaJ (Hsp40) homolog, subfamily C, member 5 (DNAJ5), mRNA [NM.025219]   |
| A.23.P76386    | 2.082 | 1.082 | 2.082 | up | Homo sapiens solute carrier family 6 (near transporter), transporter 12, SLC6A12, transcript variant 1, mRNA [NM.003044]                   |
| A.23.P201097   | 2.082 | 1.082 | 2.082 | up | Homo sapiens guanylate kinase 1 (GUK1), transcript variant 2, mRNA [NM.000895]   |
| A.23.P121702   | 2.081 | 1.082 | 2.081 | up | Homo sapiens CGIA domain containing 2 (CGIAD2), transcript variant 1, mRNA [NM.00104446]   |
| A.23.P192405   | 2.081 | 1.081 | 2.081 | up | Homo sapiens acyl-CoA dehydrogenase family, member 9 (ACAD9), transcript variant 1, mRNA [NM.014048]                                       |
| A.23.P96887    | 2.081 | 1.081 | 2.081 | up | Homo sapiens H1 histone family, member X (H1FX), mRNA [NM.009026]  |
| A.24.P370472   | 2.080 | 1.081 | 2.080 | up | Homo sapiens major histocompatibility complex, class II, DR beta 4 (HLA-DRB4), mRNA [NM.021988]  |
| A.23.P19517    | 2.080 | 1.081 | 2.080 | up | Homo sapiens insulin 1,4-5-tri-phosphate receptor, type 3 (ITPR3), mRNA [NM.002224]  |
| A.33.P3283485  | 2.080 | 1.081 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC446377 (LOC446377), misc-RNA [XR.102625]  |
| A.33.P3283485  | 2.080 | 1.081 | 2.080 | up | Homo sapiens carcinoembryonic antigen-related cell adhesion molecule 1 (Bialar, Myz968b) (CEACAM1), transcript variant 1, mRNA [NM.001172] |
| A.24.P15043    | 2.080 | 1.080 | 2.080 | up | Homo sapiens katech-like family, member 18 (KHL18), mRNA [NM.029200]   |
| A.22.P0001295  | 2.080 | 1.080 | 2.080 | up | Homo sapiens long intragenic non-protein coding RNA 1361 (LINC011361), long non-coding RNA [NR.126410]                                     |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (GATA7), mRNA [NM.002729]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | PREDICTED: Homo sapiens uncharacterized LOC101929288 (LOC101929288), mRNA [XR.244238]  |
| A.33.P3283485  | 2.080 | 1.080 | 2.080 | up | Homo sapiens GATA binding protein 7 (  |



|                |       |       |    |  |
|----------------|-------|-------|----|--|
| A.33.P21.10869 | 2.032 | 1.023 | up | porting nexin 18 pseudogene 3 [Source:HGNC Symbol;Acc:HGNC:38611] [ENST00000065870]                |
| A.22.P00012644 | 2.032 | 2.032 | up | STEAP4   |
| A.33.P2365837  | 2.032 | 1.023 | up | STEAP4   |
| A.33.P2486875  | 2.032 | 2.032 | up | ARHGAP8  |
| A.23.P253586   | 2.031 | 1.022 | up | DOPEY2   |
| A.22.P00024857 | 2.031 | 1.022 | up | LOC100288788   |
| A.23.P23746172 | 2.031 | 1.022 | up | C1orf64  |
| A.23.P493381   | 2.030 | 1.022 | up | TNFRSF72A  |
| A.21.P00042506 | 2.030 | 1.021 | up | linc-C6orf38-3   |
| A.21.P00172256 | 2.030 | 1.021 | up | PREDICTED: Homo sapiens uncharacterized LOC102724695 [LOC102724695] mRNA [XR 436222]               |
| A.23.P2365844  | 2.030 | 1.021 | up | long interspersed non-protein coding RNA 371 [Source:HGNC Symbol;Acc:HGNC:45721] [ENST00000451026] |
| A.33.P2365844  | 2.030 | 1.021 | up | long interspersed non-protein coding RNA 371 [Source:HGNC Symbol;Acc:HGNC:45721] [ENST00000451026] |
| A.33.P2365844  | 2.030 | 1.021 | up | MS1  |
| A.22.P00018829 | 2.029 | 1.021 | up | LOC284830  |
| A.24.P84243    | 2.029 | 1.021 | up | CACYBP   |
| A.33.P2401428  | 2.029 | 1.021 | up | IMEA18B  |
| A.21.P0001047  | 2.029 | 1.021 | up | PGM3   |
| A.23.P012966   | 2.029 | 1.021 | up | LOC265484  |
| A.23.P211483   | 2.028 | 1.020 | up | TNFRSS8  |
| A.33.P236875   | 2.028 | 1.020 | up | ZNF1821  |
| A.23.P4572     | 2.028 | 1.020 | up | MVL12A   |
| A.33.P3284838  | 2.028 | 1.020 | up | C6orf211   |
| A.23.P0002551  | 2.027 | 1.020 | up | C20D4D   |
| A.33.P2340744  | 2.027 | 1.019 | up | RNF208   |
| A.33.P2365844  | 2.027 | 1.019 | up | RNF208   |
| A.33.P336570   | 2.027 | 1.019 | up | NER1   |
| A.24.P18225    | 2.027 | 1.018 | up | PRB1   |
| A.23.P365859   | 2.027 | 1.018 | up | SEB  |
| A.23.P365859   | 2.026 | 1.018 | up | ZNF41-AS1  |
| A.22.P00012654 | 2.026 | 1.018 | up | EBP  |
| A.24.P18248    | 2.026 | 1.018 | up | NBP2L2   |
| A.23.P53856    | 2.026 | 1.018 | up | ANKRD10C   |
| A.33.P2361700  | 2.025 | 1.018 | up | NFFR2  |
| A.23.P15900    | 2.024 | 1.017 | up | NFFR2  |
| A.24.P943613   | 2.024 | 1.017 | up | TEC1D1   |
| A.23.P109143   | 2.023 | 1.017 | up | PNP  |
| A.33.P218855   | 2.023 | 1.016 | up | KM6A   |
| A.33.P103532   | 2.023 | 1.016 | up | GPR161   |
| A.23.P77415    | 2.022 | 1.016 | up | OSGIN1   |
| A.21.P0001061  | 2.022 | 1.016 | up | LOC10192484  |
| A.21.P0009321  | 2.020 | 1.015 | up | PPME1  |
| A.24.P24705    | 2.020 | 1.015 | up | SIK1   |
| A.33.P232721   | 2.020 | 1.014 | up | KCTD16P-4  |
| A.33.P232721   | 2.020 | 1.014 | up | KCTD16P-4  |
| A.22.P00027486 | 2.018 | 1.013 | up | LOC100288788   |
| A.23.P107073   | 2.018 | 1.013 | up | DEP  |
| A.33.P23246183 | 2.018 | 1.013 | up | C2PAP46  |
| A.22.P0002877  | 2.018 | 1.013 | up | C2PAP46  |
| A.21.P0000566  | 2.017 | 1.012 | up | IMEA11B  |
| A.24.P9671     | 2.017 | 1.012 | up | IMEA11B  |
| A.21.P0010089  | 2.017 | 1.012 | up | linc-C20orf168-2   |
| A.32.P114574   | 2.017 | 1.012 | up | CACYBP   |
| A.33.P272246   | 2.017 | 1.012 | up | LOC441866  |
| A.23.P88893    | 2.017 | 1.012 | up | DEFB   |
| A.23.P217054   | 2.017 | 1.012 | up | DOAF10   |
| A.23.P208855   | 2.016 | 1.012 | up | MMP2K2   |
| A.21.P000728   | 2.016 | 1.011 | up | linc-MYEOV-3   |
| A.22.P96058    | 2.015 | 1.011 | up | ME33A  |
| A.21.P00003640 | 2.015 | 1.011 | up | linc-C20orf1   |
| A.21.P000051   | 2.015 | 1.011 | up | BCS1   |
| A.23.P18350    | 2.015 | 1.011 | up | SH2P2  |
| A.23.P042565   | 2.015 | 1.011 | up | CY3CR1   |
| A.23.P18350    | 2.015 | 1.011 | up | CY3CR1   |
| A.24.P18284    | 2.014 | 1.010 | up | ATMIN  |
| A.22.P00004191 | 2.014 | 1.010 | up | LOC101928817   |
| A.22.P00024446 | 2.013 | 1.009 | up | HST1H2AJ   |
| A.33.P234486   | 2.013 | 1.009 | up | HST1H2AJ   |
| A.33.P2409154  | 2.012 | 1.008 | up | SLC22A23   |
| A.33.P153855   | 2.012 | 1.008 | up | ZNF492   |
| A.32.P18440    | 2.009 | 1.007 | up | AND5B  |
| A.33.P208482   | 2.009 | 1.007 | up | CLEC4M   |
| A.23.P160438   | 2.008 | 1.006 | up | MYOG   |
| A.23.P144458   | 2.008 | 1.006 | up | CAMK2D   |
| A.24.P1414712  | 2.007 | 1.005 | up | BHPF3  |
| A.21.P0008807  | 2.007 | 1.005 | up | linc-OR4M2-7   |
| A.21.P0010295  | 2.006 | 1.005 | up | linc-CS1B-1  |
| A.22.P146408   | 2.006 | 1.004 | up | ZNF294   |
| A.23.P18       | 2.006 | 1.004 | up | ZNF294   |
| A.21.P2610888  | 2.006 | 1.004 | up | LOC101927248   |

|                |       |       |       |    |              |  |
|----------------|-------|-------|-------|----|--------------|--|
| A_23_P86330    | 2.005 | 1.004 | 2.005 | up | IER5         | Homo sapiens immediate early response 5 (IER5), mRNA [NM_016545]   |
| A_33_P327410   | 2.005 | 1.003 | 2.005 | up | INPP4A       | Homo sapiens inositol polyphosphate-5-phosphatase 40kDa (INPP4A), mRNA [NM_006559]   |
| A_23_P375      | 2.004 | 1.003 | 2.004 | up | CHCA8        | Homo sapiens cell division cycle associated 8 (CHCA8), transcript variant 2, mRNA [NM_018101]  |
| A_24_P273157   | 2.004 | 1.003 | 2.004 | up | OBSCN        | Homo sapiens obscurin, cytoskeletal catenin and titin-interacting fibroblast growth factor 3 (OBSCN), transcript variant 1, mRNA [NM_028443] |
| A_33_P3270589  | 2.004 | 1.003 | 2.004 | up | TPM2         | Homo sapiens tropomyosin 2 (beta) 1 (TPM2), transcript variant 1, pm2.3, mRNA [NM_001301226]   |
| A_23_P16743    | 2.003 | 1.002 | 2.003 | up | MGA15        | Homo sapiens mannosyl (alpha-1,6)-D-galactosyltransferase 1 (MGA15), mRNA [NM_002410]  |
| A_23_P404091   | 2.003 | 1.002 | 2.003 | up | GRPEL2       | Homo sapiens GRPE-like 2, mitochondrial (E. coli) (GRPEL2), mRNA [NM_192407]   |
| A_32_P71788    | 2.003 | 1.002 | 2.003 | up | FKBP4        | Homo sapiens FK506 binding protein 4, 99kDa (FKBP4), mRNA [NM_002014]  |
| A_22_P022853   | 2.003 | 1.002 | 2.003 | up | GRB10        | Homo sapiens growth factor receptor-bound protein 10 (GRB10), transcript variant 4, mRNA [NM_001001555]                                      |
| A_23_P0022787  | 2.003 | 1.002 | 2.003 | up | LOC101924181 | Homo sapiens uncharacterized LOC101924181 (LOC101924181), long non-coding RNA [BK104624]   |
| A_23_P0022876  | 2.003 | 1.002 | 2.003 | up | MEPAL2       | Homo sapiens megalin-like 2 (MEPAL2), mRNA [NM_019313]   |
| A_33_P0023576  | 2.003 | 1.002 | 2.003 | up | CAAMK1D      | Homo sapiens calcium/calmodulin-dependent kinase 1 delta (CAAMK1D), mRNA [NM_0010000378445]  |
| A_33_P3248313  | 2.002 | 1.001 | 2.002 | up | MGC57346     | Homo sapiens ADP-ribosyltransferase factor associated 6 (MGC57346), transcript variant 2, near coding RNA [NR_027295]                        |
| A_33_P3226969  | 2.000 | 1.000 | 2.000 | up | OTOP2        | Homo sapiens otoplanin 2 (OTOP2), mRNA [NM_178160]   |
| A_19_P00321403 | 2.000 | 1.000 | 2.000 | up | LOC101928832 | PREDICTED: Homo sapiens uncharacterized LOC101928832 (LOC101928832), ncRNA [XR_245347]   |











|                 |       |      |                |  |
|-----------------|-------|------|----------------|--|
| A.23.P241.080   | 6.729 | down | TLR5           | Home sapiens toll-like receptor 5 (TLR5), mRNA [NM 003288]   |
| A.23.P241.081   | 6.722 | down | ADAL           | Home sapiens adenosine deaminase-like (ADAL), transcript variant 2, mRNA [NM 0012869]  |
| A.23.P167.685   | 6.709 | down | TNC            | Home sapiens tenascin C (TNC), mRNA [NM 002190]  |
| A.23.P242.0629  | 6.689 | down | UNC2           | Home sapiens unc-2 (UNC2), mRNA [NM 033198]  |
| A.23.P242.0630  | 6.688 | down | SYCE3          | Home sapiens syngyngaminal complex central element protein 3 (SYCE3), mRNA [NM 00123225]                                       |
| A.23.P241.0815  | 6.673 | down | LAMEB2P1       | Home sapiens laminin beta 2 pseudogene 1 (LAMEB2P1), non-coding RNA [NR 004405]  |
| A.21.P0007.122  | 6.671 | down | UNC93B1        | UNC93B1 lincRNA (linc-RP11-1386D13.1-1), lincRNA [linc-RP11-1386D13.1-1]   |
| A.21.P0007.122  | 6.665 | down | ZEB2D5-AS1     | Home sapiens ZEB2 antisense RNA 1 (ZEB2D5-AS1), long non-coding RNA [NR 004137]  |
| A.23.P242.0631  | 6.655 | down | UCKAP5         | Home sapiens UCK-associated protein 5 (UCKAP5), transcript variant 1, mRNA [NM 007363]   |
| A.23.P242.0632  | 6.654 | down | CPZK1P1        | Home sapiens CPZK1 interacting protein 1 (CPZK1P1), mRNA [NM 003194]   |
| A.23.P242.0633  | 6.654 | down | CPZK1P2        | Home sapiens CPZK1 interacting protein 1 subunit 2 (CPZK1P2), mRNA [NM 003194]   |
| A.23.P151.056   | 6.634 | down | CKAP2          | Home sapiens capping protein (p115) subunit 2 (CKAP2), transcript variant 1, mRNA [NM 012824]                                  |
| A.23.P151.056   | 6.632 | down | CKLH3          | Home sapiens CKLH3-like cytoskeleton-associated protein 3 (CKLH3), transcript variant 1, mRNA [NM 012415]                      |
| A.23.P242.0634  | 6.620 | down | FNGB1          | Home sapiens interferon gamma receptor 1 (FNGB1), mRNA [NM 000446]   |
| A.24.P243.0688  | 6.619 | down | ELI3           | Home sapiens elongation factor RNA polymerase II-like 3 (ELI3), mRNA [NM 025165]   |
| A.21.P001.0469  | 6.618 | down | XLOC_2.014238  | BROAD Institute lincRNA XLOC_2.014238, lincRNA [XLOC_2.014238]   |
| A.22.P001.0465  | 6.608 | down | linc-G1Lor88-1 | Home sapiens cDNA clone IMAGE4820463, [B0201736]   |
| A.23.P242.0635  | 6.604 | down | ZNF658         | Home sapiens zinc finger protein 658 (ZNF658), mRNA [NM 033160]  |
| A.23.P242.0636  | 6.603 | down | CYPA2A5        | Home sapiens cytochrome P450, family 4, subfamily A, polypeptide 5 (CYPA2A5), transcript variant 2, mRNA [NM 001190484]        |
| A.33.P243.0488  | 6.596 | down | ALDH7A1        | Home sapiens aldehyde dehydrogenase 7, family, member A1 (ALDH7A1), transcript variant 1, mRNA [NM 0011182]                    |
| A.22.P0000.3881 | 6.595 | down | linc-CEP192-1  | linc-CEP192-1  |
| A.23.P243.0637  | 6.589 | down | PAPLN          | Home sapiens papilin, proteoglycan-like sulfated glycoprotein (PAPLN), mRNA [NM 172482]  |
| A.24.P243.0638  | 6.558 | down | CYTR1          | Home sapiens cytosine/lysine-rich 1 (CYTR1), mRNA [NM 052934]  |
| A.23.P243.0639  | 6.553 | down | MUC5B          | Home sapiens mucin 5B, cell surface associated (MUC5B), transcript variant 2, mRNA [NM 145650]                                 |
| A.23.P243.0640  | 6.531 | down | CXCR4B7        | Home sapiens chemokine X chemokine receptor 4 (CXCR4B7), transcript variant 1, mRNA [NM 016015]                                |
| A.33.P242.0656  | 6.521 | down | UNC30667       | Home sapiens cDNA FL25144.1e, clone CH80722, [AK057813]  |
| A.32.P153.078   | 6.521 | down | BCL11A         | Home sapiens B-cell CLL/lymphoma 11A zinc finger protein (BCL11A), transcript variant 2, mRNA [NM 016014]                      |
| A.19.P006.1400  | 6.516 | down | THSD1          | Home sapiens thrombospondin type 1 domain containing 1 (THSD1), transcript variant 2, mRNA [NM 192863]                         |
| A.33.P242.0657  | 6.513 | down | CH2            | Home sapiens complement component 1c subcomponent (CH2), mRNA [NM 001733]  |
| A.33.P242.0658  | 6.492 | down | RN1            | Home sapiens Rna and Rbc interactor 1 (RN1), mRNA [NM 004292]  |
| A.23.P242.0659  | 6.489 | down | STAR           | Home sapiens steroidogenic acute regulatory protein (STAR), mRNA [NM 000349]   |
| A.23.P21.6812   | 6.485 | down | ODKN2B         | Home sapiens cyclin-dependent kinase inhibitor 2B, G15, inhibits CDK4 (ODKN2B), transcript variant 1, mRNA [NM 004836]         |
| A.24.P189.251   | 6.482 | down | PASSF9         | Home sapiens Passiflora (PASSF9/AF-6) domain family (N-terminal member 9) (PASSF9), mRNA [NM 005447]                           |
| A.33.P21.6816   | 6.468 | down | TNK            | Home sapiens TRAF2 and NCK interacting kinase (TNK), transcript variant 1, mRNA [NM 015028]                                    |
| A.24.P188.065   | 6.465 | down | DHFR1          | Home sapiens dihydrofolate reductase-like 1 (DHFR1), transcript variant 2, mRNA [NM 176815]                                    |
| A.32.P183.125   | 6.441 | down | SGMS1          | Home sapiens sphingomyelinase 1 (SGMS1), mRNA [NM 147156]  |
| A.22.P240.70    | 6.428 | down | PARD6G         | Home sapiens par-6 family cell polarity regulator gamma (PARD6G), mRNA [NM 032510]   |
| A.23.P242.0660  | 6.425 | down | HRA5L          | Home sapiens HRA5-like suppressor (HRA5L), mRNA [NM 029336]  |
| A.23.P242.0661  | 6.418 | down | IRF1           | Home sapiens interferon regulatory factor 1 (IRF1), mRNA [NM 002198]   |
| A.33.P242.0662  | 6.403 | down | ZNF38C         | Home sapiens zinc finger protein 385C (ZNF38C), mRNA [NM 00124704]   |
| A.32.P153.078   | 6.390 | down | JAZF1          | Home sapiens JAZF zinc finger 1 (JAZF1), mRNA [NM 175901]  |
| A.23.P183.124   | 6.349 | down | THSD1          | Home sapiens thrombospondin, type 1 domain containing 1 (THSD1), transcript variant 1, mRNA [NM 016876]                        |
| A.23.P183.124   | 6.348 | down | THSD2          | Home sapiens thrombospondin, type 1 domain containing 2 (THSD2), transcript variant 1, mRNA [NM 029336]                        |
| A.21.P131.10    | 6.332 | down | FCG2           | Home sapiens fibronectin type III domain containing 2 (FCG2), transcript variant 1, mRNA [NM 029467]                           |
| A.23.P21.6822   | 6.320 | down | MARCKS         | Cyclin-like domain protein group G subunit 3 (Source:HGNC Symbol:AC116363.5) [ENST0000012631]                                  |
| A.23.P12.188    | 6.320 | down | BDNF           | Home sapiens brain-derived neurotrophic factor (BDNF), transcript variant 1, mRNA [NM 170738]                                  |
| A.33.P22.740    | 6.318 | down | GOL4A4         | Home sapiens Golgi alpha 4 (COL4A4), mRNA [NM 000892]  |
| A.33.P22.740    | 6.317 | down | NUDT7          | Home sapiens nucleoside diphosphate-linked moiety X-type motif 7 (NUDT7), transcript variant 3, mRNA [NM 001243637]            |
| A.21.P001.0478  | 6.312 | down | LOC100506538   | PREDICED: Home sapiens uncharacterized LOC100506538 (LOC100506538), mRNA [XR 428345]   |
| A.23.P21.049    | 6.303 | down | DPYSL4         | Home sapiens dihydropyrimidinase-like 4 (DPYSL4), mRNA [NM 008426]   |
| A.24.P22.0605   | 6.302 | down | BTNA1          | Home sapiens butyrophilin, subfamily 3, member A1 (BTNA1), transcript variant 1, mRNA [NM 007448]                              |
| A.24.P22.0606   | 6.298 | down | FAM101A        | Home sapiens family with sequence similarity 101, member A (FAM101A), mRNA [NM 181709]   |
| A.22.P0000.1986 | 6.287 | down | GN5            | guanine nucleotide binding protein (G protein), beta 5 [Source:HGNC Symbol:HGNC:440] [ENST00000261837]                         |
| A.23.P242.0663  | 6.287 | down | TLR2           | Home sapiens toll-like receptor 2 (TLR2), mRNA [NM 002864]   |
| A.19.P003.22815 | 6.280 | down | ODKN2B-AS1     | Home sapiens ODKN2B antisense RNA 1 (ODKN2B-AS1), transcript variant 1, long non-coding RNA [NR 033529]                        |
| A.33.P242.0664  | 6.266 | down | FAM127C        | Home sapiens family with sequence similarity 127, member C (FAM127C), mRNA [NM 001078173]                                      |
| A.22.P002.3340  | 6.248 | down | LOC101929288   | Home sapiens uncharacterized LOC101929288 (LOC101929288), long non-coding RNA [NR 105602]                                      |
| A.24.P171.813   | 6.227 | down | FBCO4          | Home sapiens F-box protein 4 (FBCO4), transcript variant 1, mRNA [NM 012176]   |
| A.23.P153.078   | 6.221 | down | SAND3L         | sterile alpha motif domain containing 3-like (Source:HGNC Symbol:HGNC:1549) [ENST00000411955]                                  |
| A.23.P153.078   | 6.221 | down | TRK2           | Home sapiens tropomyosin receptor kinase 2 (TRK2), origin and subtype specific tyrosine kinase [Source:HGNC Symbol:HGNC:12345] |
| A.21.P145.167   | 6.190 | down | TRK3           | Home sapiens tropomyosin receptor kinase 3 (TRK3), ligand-induced tyrosine kinase [Source:HGNC Symbol:HGNC:12345]              |
| A.21.P000.292   | 6.188 | down | linc-TAL1-1    | Home sapiens uncharacterized lincRNA linc-TAL1-1, lincRNA [NM 029430]  |
| A.22.P000.16117 | 6.188 | down | linc-TAL1-1    | Home sapiens uncharacterized lincRNA linc-TAL1-1, lincRNA [NM 029430]  |
| A.32.P12.629    | 6.183 | down | WNK2           | Home sapiens WNK lysine deficient protein kinase 2 (WNK2), transcript variant 2, mRNA [NM 006848]                              |
| A.33.P242.0665  | 6.182 | down | DOCK8          | Home sapiens dock8, cytoskeletal binding domain 8 (DOCK8), transcript variant 1, mRNA [NM 203447]                              |
| A.33.P242.0666  | 6.176 | down | linc-HMGCLL1-1 | linc-HMGCLL1-1   |
| A.22.P000.2185  | 6.172 | down | DOCK8          | Home sapiens dedicator of cytokinesis 8 (DOCK8), transcript variant 1, mRNA [NM 203447]  |
| A.21.P000.758   | 6.156 | down | linc-HMGCLL1-1 | linc-HMGCLL1-1   |
| A.33.P242.0667  | 6.150 | down | URRC68         | Home sapiens urucic acid oxidase 68 (URRC68), mRNA [NM 001024611]  |
| A.32.P12.614    | 6.132 | down | PABPC4L        | Home sapiens poly(A) binding protein, cytoplasmic 4-like (PABPC4L), mRNA [NM 00114734]   |
| A.33.P242.0668  | 6.128 | down | IRX3           | Home sapiens irx3, homeobox 3 (IRX3), mRNA [NM 024336]   |
| A.33.P242.0669  | 6.124 | down | BCL11A         | Home sapiens B-cell CLL/lymphoma 11A zinc finger protein (BCL11A), transcript variant 3, mRNA [NM 138559]                      |
| A.23.P21.088    | 6.119 | down | IFNA2          | Home sapiens interferon alpha beta and omega 2 (IFNA2), transcript variant 1, mRNA [NM 008944]                                 |
| A.33.P242.0670  | 6.113 | down | DNAH2L3        | Home sapiens dectin domain protein 3 (DNAH2L3), transcript variant 1, mRNA [NM 029388]   |
| A.32.P12.608    | 6.105 | down | CEP19          | Home sapiens cDNA FL25386.1e, clone SH71207.101, [AK063998]  |
| A.32.P12.608    | 6.105 | down | CEP19          | Home sapiens cDNA FL25386.1e, clone SH71207.101, [AK063998]  |
| A.32.P12.612    | 6.092 | down | TFAM4          | Home sapiens transcription factor 4 (TFAM4), mRNA [NM 029388]  |
| A.24.P244.0623  | 6.072 | down | PPP1B2         | Home sapiens protein phosphatase 1, beta 2 (PPP1B2), transcript variant 1, mRNA [NM 003851]                                    |
| A.24.P244.0623  | 6.068 | down | TNS3           | Home sapiens tumor necrosis factor receptor 3 (TNS3), mRNA [NM 022248]   |
| A.24.P12.611    | 6.062 | down | RIPK4          | Home sapiens receptor-interacting serine-threonine kinase 4 (RIPK4), mRNA [NM 020889]  |
| A.22.P000.6447  | 6.061 | down | LOC100506674   | Home sapiens uncharacterized LOC100506674 (LOC100506674), transcript variant 4, long non-coding RNA [NR 109885]                |
| A.33.P242.0671  | 6.057 | down | MECOM          | Home sapiens MDS1 and EVI1 complex locus (MECOM), transcript variant 6, mRNA [NM 00164000]                                     |
| A.23.P31.047    | 6.045 | down | AGR2           | Home sapiens anterior gradient 2 (AGR2), mRNA [NM 006408]  |















|                |      |       |        |                  |   |
|----------------|------|-------|--------|------------------|---|
| A.23.P143348   | down | 3.968 | -1.988 | OVQLZ            | ovo-like zinc finger 2 [Source:HGNC Symbol;Acc:HGNC:19694] [ENST00000483861]  |
| A.24.P238250   | down | 3.962 | -1.986 | IGALS7           | Home sapiens lectin, galactoside-binding, soluble, 2 [LIGALS7, mRNA NM_002320]  |
| A.33.P2029386  | down | 3.962 | -1.986 | TKND017          | Home sapiens thiodiolin domain-containing 17 [TKND017, mRNA NM_092731]  |
| A.24.P197519   | down | 3.961 | -1.986 | LZFL1            | Home sapiens leucine zipper transcription factor-like 1 [LZFL1, transcript variant 1, mRNA NM_020947]                                   |
| A.23.P166508   | down | 3.957 | -1.985 | UNCO1315         | Home sapiens long intergenic non-protein coding RNA 1315 [UNCO1315, transcript variant 1, long non-coding RNA NR_120595]                |
| A.32.P175175   | down | 3.957 | -1.984 | MEIG1            | Home sapiens Meigs syndrome 1 [MEIG1, mRNA NM_001089396]  |
| A.23.P435657   | down | 3.956 | -1.984 | ALM5IP           | Home sapiens Alstrom syndrome 1, pseudogene [ALM5IP, non-coding RNA NR_036883]  |
| A.33.P295005   | down | 3.953 | -1.983 | RE1B07           | Home sapiens leish repeat and BTB (POZ) domain containing 7 [RE1B07, transcript variant 1, mRNA NM_001029201]                           |
| A.33.P295025   | down | 3.952 | -1.983 | CHLE1            | Home sapiens Fc receptor-like B [CHLE1, transcript variant 1, mRNA NM_001029201]  |
| A.23.P2027104  | down | 3.948 | -1.981 | LOC102383684     | UNCGbeta lincRNA [linc-12A-2], lincRNA [linc-12A-2]   |
| A.33.P295046   | down | 3.946 | -1.982 | LOC102383684     | UNCGbeta lincRNA [linc-12A-2], lincRNA [linc-12A-2]   |
| A.23.P2027476  | down | 3.946 | -1.982 | ELAC2-AS1        | Home sapiens RNA polymerase II-associated factor 2, alternative splicing variant 1 [ELAC2-AS1, transcript variant 1, mRNA NM_001029201] |
| A.24.P266678   | down | 3.939 | -1.978 | ENMAL1           | Home sapiens RNA polymerase II, alternative splicing variant 1 [ENMAL1, transcript variant 1, mRNA NM_001029201]                        |
| A.24.P262138   | down | 3.939 | -1.978 | GLS2             | Home sapiens glutathione S-transferase 2, liver mitochondrial [GLS2, transcript variant 1, mRNA NM_001029201]                           |
| A.22.P0006713  | down | 3.937 | -1.977 | TMEM81           | Home sapiens transmembrane protein 81 [TMEM81, mRNA NM_033428]  |
| A.22.P00058844 | down | 3.936 | -1.977 | LOC100508844     | Home sapiens uncharacterized LOC100508844 [LOC100508844, long non-coding RNA NR_038269]   |
| A.22.P0004941  | down | 3.932 | -1.975 | BACE1            | Home sapiens beta-site APP-cleaving enzyme 1 [BACE1, transcript variant 3, mRNA NM_012104]  |
| A.24.P102921   | down | 3.931 | -1.975 | PTAFR            | Home sapiens platelet-activating factor receptor [PTAFR, transcript variant 3, mRNA NM_000952]  |
| A.23.P236047   | down | 3.930 | -1.974 | ANKK1            | Home sapiens ankyrin repeat and EF-hand domain containing 1 [ANKK1, transcript variant 1, mRNA NM_000952]                               |
| A.23.P23914    | down | 3.929 | -1.974 | NUPR2CL          | Home sapiens nucleoporin 220, C-terminal like [NUPR2CL, transcript variant 1, mRNA NM_017681]   |
| A.33.P3318625  | down | 3.928 | -1.973 | NKAF2            | Home sapiens nuclear factor 1A [NFA], transcript variant 1, mRNA NM_001034673]  |
| A.33.P3219737  | down | 3.928 | -1.973 | KCNK7            | Home sapiens potassium channel, two pore domain subfamily K member 7 [KCNK7, transcript variant C, mRNA NM_005714]                      |
| A.32.P26376    | down | 3.923 | -1.972 | POGLUT1          | Home sapiens protein O-glycosyltransferase 1 [POGLUT1, transcript variant 1, mRNA NM_152905]  |
| A.23.P410224   | down | 3.923 | -1.972 | G6eF92           | Home sapiens chromosome 6 open reading frame 92 [G6eF92, transcript variant 1, mRNA NM_001149220]                                       |
| A.33.P330903   | down | 3.920 | -1.971 | ALDH7A1          | Home sapiens aldehyde dehydrogenase 7 family, member A1 [ALDH7A1], transcript variant 1, mRNA NM_0011182]                               |
| A.23.P42642    | down | 3.920 | -1.971 | CPAP45           | Home sapiens cilia and flagella associated protein 45 [CPAP45], mRNA NM_018559]   |
| A.23.P451146   | down | 3.916 | -1.969 | SEIP1            | Home sapiens SE binding protein 1 [SEIP1], transcript variant 1, mRNA NM_018559]  |
| A.33.P295040   | down | 3.916 | -1.969 | SLC8A5           | Home sapiens sodium/calcium cotransporter 5 [SLC8A5, transcript variant 1, mRNA NM_001029201]   |
| A.33.P295041   | down | 3.916 | -1.969 | SLC8A5           | Home sapiens sodium/calcium cotransporter 5 [SLC8A5, transcript variant 2, mRNA NM_001029201]   |
| A.33.P295042   | down | 3.916 | -1.969 | BEND4            | Home sapiens BHLH domain containing 6 [BEND6], mRNA NM_152731]  |
| A.33.P295043   | down | 3.916 | -1.969 | GLW43            | Home sapiens chromosome 9 open reading frame 43 [G6eF43], transcript variant 1, mRNA NM_182780]   |
| A.33.P295044   | down | 3.916 | -1.969 | TMEM82           | Home sapiens transmembrane protein 82 [TMEM82], mRNA NM_178445]   |
| A.22.P0002797  | down | 3.910 | -1.967 | LOC100294145     | Q25C24 MAGFA [Q25C24], Brain cDNA, clone: Qwa-18160, complete [LOC100294145]  |
| A.19.P0201143  | down | 3.909 | -1.966 | LOC100294145     | Home sapiens uncharacterized LOC100294145 [LOC100294145], transcript variant 2, long non-coding RNA [NR_037178]                         |
| A.23.P21868    | down | 3.908 | -1.966 | PPAP2B           | Home sapiens phosphatidic acid phosphatase type 2B [PPAP2B], mRNA NM_003713]  |
| A.23.P130764   | down | 3.907 | -1.966 | KCNJ14           | Home sapiens potassium channel, inwardly rectifying subfamily J, member 14 [KCNJ14], mRNA NM_013346]                                    |
| A.33.P2321076  | down | 3.904 | -1.965 | PAPXP1-AS2       | Home sapiens PAPXP1 antisense RNA 2 [PAPXP1-AS2, transcript variant 2, long non-coding RNA NR_024477]                                   |
| A.23.P167920   | down | 3.895 | -1.962 | DLL1             | Home sapiens delta-like 1 [Drosophila] [DLL1], mRNA NM_005818]  |
| A.23.P17834    | down | 3.890 | -1.960 | THBS4            | Home sapiens thrombospondin 4 [Source:HGNC Symbol;Acc:HGNC:11788] [ENST00000513310]   |
| A.23.P420196   | down | 3.884 | -1.958 | LOC1000125-1     | Home sapiens cDNA clone IMAGE5298846 [BC008391]   |
| A.23.P420196   | down | 3.881 | -1.958 | SOCS1            | Home sapiens suppressor of cytokine signaling 1 [SOCS1], mRNA NM_003745]  |
| A.23.P500400   | down | 3.879 | -1.956 | ABCA8            | Home sapiens ATP-binding cassette, sub-family A (ABC1), member 8 [ABCA8], mRNA NM_060284]   |
| A.24.P26250    | down | 3.878 | -1.955 | RHOJ             | Home sapiens ras homolog family member D [RHOJ], transcript variant 1, mRNA NM_021205]  |
| A.23.P24286    | down | 3.877 | -1.955 | PANCP            | Home sapiens human pancreas, complementation group F [PANCP], mRNA NM_022725]   |
| A.23.P16286    | down | 3.877 | -1.955 | ALCX2            | Home sapiens brain expressed X-linked 1 [BXEL1], B220000, cDNA [ALCX2], mRNA NM_008637]   |
| A.23.P16286    | down | 3.877 | -1.955 | ALCX2            | Home sapiens brain expressed X-linked 1 [BXEL1], B220000, cDNA [ALCX2], mRNA NM_008637]   |
| A.24.P26250    | down | 3.871 | -1.953 | HSPD             | Home sapiens heat shock protein 70, cytosolic [HSPD], cDNA [HSPD], mRNA NM_001029201]   |
| A.24.P26250    | down | 3.871 | -1.953 | NSUN7            | Home sapiens NOP2/Sun domain family member 7 [NSUN7], mRNA NM_024677]   |
| A.24.P212830   | down | 3.868 | -1.952 | EGFR3            | Home sapiens fibroblast growth factor receptor 3 [EGFR3], transcript variant 2, mRNA NM_004285]   |
| A.23.P124250   | down | 3.865 | -1.950 | TSNAXIP1         | Home sapiens translin-interacting factor X interacting protein 1 [TSNAXIP1], transcript variant 1, mRNA NM_001042]                      |
| A.33.P2459652  | down | 3.863 | -1.950 | EGLN3            | Home sapiens egl-9 family hypoxia-inducible factor 3 [EGLN3], mRNA NM_022073]   |
| A.21.P0013365  | down | 3.863 | -1.950 | ZNF819P          | Home sapiens zinc finger protein 819, pseudogene [ZNF819P, non-coding RNA NR_023392]  |
| A.21.P238820   | down | 3.862 | -1.950 | GBL1             | Home sapiens Chi protein-occlusin B, E3 ubiquitin protein ligase [GBL1], mRNA NM_170682]  |
| A.21.P0010286  | down | 3.862 | -1.949 | ZNF775           | BX102845 Scores multiple sclerosis 2N4HMSF Home sapiens cDNA, clone IMAGe98983843, mRNA sequence [BX102845]                             |
| A.33.P3289426  | down | 3.861 | -1.949 | ZNF775           | Home sapiens zinc finger protein 775 [ZNF775], mRNA NM_178680]  |
| A.23.P263972   | down | 3.858 | -1.948 | FZD10            | Home sapiens frizzled class receptor 10 [FZD10], mRNA NM_007189]  |
| A.32.P850562   | down | 3.853 | -1.946 | ZNF337-AS1       | Home sapiens ZNF337 antisense RNA 1 [ZNF337-AS1], transcript variant 2, long non-coding RNA [NR_126466]                                 |
| A.23.P295959   | down | 3.853 | -1.946 | SNCA             | Home sapiens synuclein, alpha (non A4 component of amyloid precursor) [SNCA], transcript variant 4, mRNA NM_007306]                     |
| A.22.P0000856  | down | 3.852 | -1.946 | LOC100508844     | UNCGbeta lincRNA [linc-AGPAT2-2], lincRNA [linc-AGPAT2-2]   |
| A.23.P79992    | down | 3.848 | -1.944 | MKKS             | Home sapiens McKusick-Kaufman syndrome [MKKS], transcript variant 2, mRNA NM_170784]  |
| A.23.P24616    | down | 3.844 | -1.943 | SIAT             | Home sapiens sialic acid acetyltransferase [SIAT], transcript variant 1, mRNA NM_170801]  |
| A.23.P24616    | down | 3.844 | -1.943 | SIAT             | Home sapiens sialic acid acetyltransferase [SIAT], transcript variant 2, mRNA NM_170801]  |
| A.22.P56957    | down | 3.843 | -1.942 | TCF4             | Home sapiens transcription factor 4 [TCF4], transcript variant 2, mRNA NM_002620]   |
| A.23.P15487    | down | 3.842 | -1.942 | GBX2             | Home sapiens transcription factor 2, basic helix-loop-helix [GBX2], mRNA NM_018784]   |
| A.33.P242043   | down | 3.841 | -1.941 | LOC100508231.1-1 | UNCGbeta lincRNA [linc-AQ08231.1-1], lincRNA [linc-AQ08231.1-1]   |
| A.33.P3553030  | down | 3.840 | -1.941 | UCN              | Home sapiens urocanin [UCN], mRNA NM_003853]  |
| A.23.P37670    | down | 3.837 | -1.940 | G14orf79         | Home sapiens chromosome 14 open reading frame 79 [G14orf79], mRNA NM_174891]  |
| A.33.P6812270  | down | 3.836 | -1.940 | LOC100508844     | Home sapiens uncharacterized LOC100508844 [LOC100508844, long non-coding RNA NR_038269]   |
| A.23.P376036   | down | 3.835 | -1.939 | EXD1             | Home sapiens exonuclease 3'-5', domain containing 1 [EXD1], transcript variant 2, mRNA NM_152956]                                       |
| A.24.P238456   | down | 3.835 | -1.939 | TYMSOS           | Home sapiens TYMS opposite strand [TYMSOS], mRNA NM_00102716]   |
| A.23.P29255    | down | 3.835 | -1.939 | SYK              | Home sapiens spleen tyrosine kinase [SYK], transcript variant 1, mRNA NM_003177]  |
| A.21.P0017959  | down | 3.832 | -1.938 | LOC100508844     | olfactory receptor family 7, subfamily E, member 117 pseudogene [Source:HGNC Symbol;Acc:HGNC:19365] [ENST00000442892]                   |
| A.21.P0003446  | down | 3.831 | -1.938 | FLJ8777          | uncharacterized LOC730971 [Source:Ensembl;Acc:730971] [ENST00000504002]   |
| A.24.P102813   | down | 3.831 | -1.938 | KPRT1            | Home sapiens keratin, type I cytokeletal, member B [KAP151B], mRNA NM_004736]   |
| A.19.P00813554 | down | 3.829 | -1.936 | PAM151B          | Home sapiens family with sequence similarity 151, member B [PAM151B], long non-coding RNA [NR_021723]                                   |
| A.33.P2928979  | down | 3.827 | -1.936 | YAP1             | Home sapiens yes-associated protein 1 [YAP1], transcript variant 3, mRNA NM_005549]   |
| A.33.P3301955  | down | 3.825 | -1.935 | PDE7A            | Home sapiens phosphodiesterase 7A [PDE7A], transcript variant 3, mRNA NM_008194]  |
| A.23.P13228    | down | 3.823 | -1.933 | YAP1             | Home sapiens yes-associated protein 1 [YAP1], transcript variant 1, mRNA NM_008194]   |
| A.33.P263697   | down | 3.821 | -1.932 | LOC100508844     | Home sapiens yes-associated protein 1 [YAP1], transcript variant 2, mRNA NM_008194]   |
| A.24.P2927551  | down | 3.821 | -1.932 | FAM1942          | Home sapiens nuclear pore basket protein 19, cytoplasmic [C-G motif-like], member A2 [FAM1942], mRNA [NM_178539]                        |
| A.33.P263697   | down | 3.820 | -1.932 | GALC             | Home sapiens galactosylceramidase [GALC], transcript variant 1, mRNA NM_000153]   |
| A.23.P487711   | down | 3.812 | -1.931 | G14orf59         | Home sapiens chromosome 14 open reading frame 59 [G14orf59], transcript variant 3, mRNA NM_024992]                                      |
| A.23.P77114    | down | 3.809 | -1.929 | GLIAP1           | Home sapiens glioblastoma associated protein 1 [GLIAP], transcript variant 2, mRNA NM_024793]   |
| A.21.P0014662  | down | 3.807 | -1.928 | LOC100507395     | PREDICTED: Home sapiens uncharacterized LOC100507395 [LOC100507395], mRNA [XR_424061]   |
| A.22.P00001349 | down | 3.802 | -1.927 | UNCO0667         | Home sapiens long intergenic non-protein coding RNA 667 [UNCO0667], long non-coding RNA [NR_011589]                                     |

|                |      |        |        |       |                 |   |
|----------------|------|--------|--------|-------|-----------------|---|
| A.33.P342949   | down | -3.802 | -1.927 | 3.802 | GBX2            | Home sapiens chromobox homolog 2 (GBX2), transcript variant 1, mRNA [NM 005189]   |
| A.23.P217339   | down | -3.800 | -1.926 | 3.800 | PRKX            | Home sapiens protein kinase, X-linked (PRKX), mRNA [NM 005644]  |
| A.33.P328177   | down | -3.797 | -1.925 | 3.797 | ZNF37A          | Home sapiens zinc finger protein 37A (ZNF37A), transcript variant 1, mRNA [NM 001007094]  |
| A.33.P3410894  | down | -3.796 | -1.924 | 3.796 | ZNF37A          | Home sapiens zinc finger protein 37A (ZNF37A), transcript variant 1, mRNA [NM 001007094]  |
| A.33.P345530   | down | -3.793 | -1.923 | 3.793 | MIFERF2         | Home sapiens cDNA FLJ25208, fig. clone RECO9894, [AK051937]   |
| A.33.P3366336  | down | -3.792 | -1.923 | 3.792 | SEK1            | Home sapiens mitogen-activated protein kinase 1 (SEK1), mRNA [NM 001024401]   |
| A.33.P306501   | down | -3.786 | -1.921 | 3.786 | GLEG1B8         | Home sapiens SH3 domain binding kinase 1 (SEK1), mRNA [NM 001024401]  |
| A.23.P155857   | down | -3.784 | -1.920 | 3.784 | NUDT18          | Home sapiens c-type lectin domain family 18, member B (CLEC18B), mRNA [NM 001011880]  |
| A.33.P343474   | down | -3.780 | -1.918 | 3.780 | LID1A03         | Low density lipoprotein receptor class A domain containing 3 (Source:HGNC Symbol;Acc:HGNC:27046) [ENS100000813571]  |
| A.33.P343474   | down | -3.779 | -1.918 | 3.779 | ZNF872          | Home sapiens zinc finger protein 872 (ZNF872), mRNA [NM 001198814]  |
| A.33.P343474   | down | -3.779 | -1.918 | 3.779 | ZNF872          | Home sapiens zinc finger protein 872 (ZNF872), mRNA [NM 001198814]  |
| A.33.P345508   | down | -3.776 | -1.917 | 3.776 | ANKK1           | Home sapiens putative glycoprotein osteonin (Osteonin), like the rat (Osteonin), transcript variant 1, mRNA [NM 001378771]  |
| A.33.P345508   | down | -3.775 | -1.917 | 3.775 | ANKK1           | Home sapiens putative glycoprotein osteonin (Osteonin), like the rat (Osteonin), transcript variant 1, mRNA [NM 001378771]  |
| A.33.P3381638  | down | -3.773 | -1.916 | 3.773 | MGP             | Home sapiens matrix Gla protein (MGP), transcript variant 1, mRNA [NM 001140838]  |
| A.33.P3381638  | down | -3.771 | -1.915 | 3.771 | MGP             | Home sapiens matrix Gla protein (MGP), transcript variant 1, mRNA [NM 001140838]  |
| A.23.P249231   | down | -3.770 | -1.914 | 3.770 | FRMD4A          | Home sapiens FERM domain containing 4A (FRMD4A), mRNA [NM 0180221]  |
| A.23.P249231   | down | -3.769 | -1.914 | 3.769 | FRMD4A          | Home sapiens FERM domain containing 4A (FRMD4A), mRNA [NM 0180221]  |
| A.33.P3261532  | down | -3.767 | -1.913 | 3.767 | KCNJ15          | Home sapiens potassium channel, inwardly rectifying subfamily 4, member 15 (KCNJ15), transcript variant 1, mRNA [NM 018651]                                       |
| A.33.P3261532  | down | -3.767 | -1.913 | 3.767 | KCNJ15          | Home sapiens potassium channel, inwardly rectifying subfamily 4, member 15 (KCNJ15), transcript variant 1, mRNA [NM 018651]                                       |
| A.21.P0009151  | down | -3.767 | -1.913 | 3.767 | LOX100508844    | tetraspanin 10 (Source:HGNC Symbol;Acc:HGNC:29942) [ENS1000005781914]   |
| A.33.P3261532  | down | -3.765 | -1.913 | 3.765 | GATA2B          | Home sapiens uncharacterized LOC100508844 (LOC100508844), long non-coding RNA [NR 0382619]  |
| A.33.P3420659  | down | -3.756 | -1.909 | 3.756 | GDAP1           | Home sapiens GATA 2 zinc finger domain containing 2B (GATA2B), mRNA [NM 0208699]  |
| A.33.P3420659  | down | -3.756 | -1.909 | 3.756 | GDAP1           | Home sapiens GATA 2 zinc finger domain containing 2B (GATA2B), mRNA [NM 0208699]  |
| A.22.P00008683 | down | -3.756 | -1.909 | 3.756 | PREDIGD         | Home sapiens uncharacterized LOC101929176 (LOC101929176), transcript variant 1, mRNA [NM 0189772]   |
| A.22.P00016719 | down | -3.756 | -1.909 | 3.756 | linc-TNMI1-3    | PREDIGD: Home sapiens uncharacterized LOC101929176 (LOC101929176), transcript variant 1, mRNA [NM 0189772]  |
| A.33.P3281558  | down | -3.752 | -1.908 | 3.752 | BAIAP2-AS1      | UNC95B1, linc-TNMI1-3, lincRNA, linc-TNMI1-3-2  |
| A.24.P197537   | down | -3.750 | -1.907 | 3.750 | PDZB8           | Home sapiens BAIAP2 antisense RNA 1 (head to head) (BAIAP2-AS1), long non-coding RNA [NR 0288157]   |
| A.33.P3448597  | down | -3.746 | -1.905 | 3.746 | ISPAN10         | Home sapiens phosphatidase 8B (PDZB8), transcript variant 1, mRNA [NM 0037191]  |
| A.33.P3448597  | down | -3.745 | -1.905 | 3.745 | ISPAN10         | Home sapiens phosphatidase 8B (PDZB8), transcript variant 1, mRNA [NM 0037191]  |
| A.33.P3242689  | down | -3.745 | -1.905 | 3.745 | IFIT1           | Home sapiens tetraspanin 10 (ISPAN10), transcript variant 1, mRNA [NM 007269212]  |
| A.33.P3242689  | down | -3.744 | -1.904 | 3.744 | IFIT1           | Home sapiens tetraspanin 10 (ISPAN10), transcript variant 1, mRNA [NM 007269212]  |
| A.33.P3242689  | down | -3.744 | -1.904 | 3.744 | IFIT1           | Home sapiens tetraspanin 10 (ISPAN10), transcript variant 1, mRNA [NM 007269212]  |
| A.33.P3242689  | down | -3.744 | -1.904 | 3.744 | IFIT1           | Home sapiens tetraspanin 10 (ISPAN10), transcript variant 1, mRNA [NM 007269212]  |
| A.21.P0012469  | down | -3.743 | -1.904 | 3.743 | CHKB-AS1        | PREDIGD: Home sapiens uncharacterized LOC101929182 (LOC101929182), transcript variant 1, long non-coding RNA [NR 102926]  |
| A.21.P0012469  | down | -3.743 | -1.904 | 3.743 | CHKB-AS1        | Home sapiens CHKB antisense RNA 1 (head to head) (CHKB-AS1), transcript variant 1, long non-coding RNA [NR 102926]  |
| A.21.P0012469  | down | -3.738 | -1.903 | 3.738 | linc-COL2A1-1   | Home sapiens CHKB antisense RNA 1 (head to head) (CHKB-AS1), transcript variant 1, long non-coding RNA [NR 102926]  |
| A.23.P212768   | down | -3.735 | -1.901 | 3.735 | GRK4            | Home sapiens cDNA FLJ 25407, fig. clone IS102904, [AK0581180]   |
| A.23.P212768   | down | -3.735 | -1.901 | 3.735 | GRK4            | Home sapiens G protein-coupled receptor kinase 4 (GRK4), transcript variant 3, mRNA [NM 001004057]  |
| A.22.P00029482 | down | -3.733 | -1.900 | 3.733 | ANKK1           | Home sapiens ANKH inorganic pyrophosphatase transcript regulator (ANKK1), mRNA [NM 0542027]   |
| A.22.P00029482 | down | -3.733 | -1.900 | 3.733 | ANKK1           | Home sapiens ANKH inorganic pyrophosphatase transcript regulator (ANKK1), mRNA [NM 0542027]   |
| A.24.P48177    | down | -3.732 | -1.900 | 3.732 | ST3GAL2         | UDP-D-glucose 4-epimerase 1 (Source:HGNC Symbol;Acc:HGNC:34360) [ENS100000598017]   |
| A.24.P737838   | down | -3.731 | -1.900 | 3.731 | DRFC73          | Home sapiens ST3 beta-galactoside alpha-2,3-sialyltransferase 2 (ST3GAL2), mRNA [NM 008927]   |
| A.24.P737838   | down | -3.731 | -1.900 | 3.731 | DRFC73          | Home sapiens leukemia rich repeat-containing 73 (LRRC73), transcript variant 1, mRNA [NM 001012924]   |
| A.24.P44546    | down | -3.731 | -1.900 | 3.731 | DFFB            | Home sapiens Rac1 fragmentation factor 40Da, beta polypeptide (Gestapo-activated DNase), (DFFB), transcript variant 1, mRNA [NM 001282689]                        |
| A.24.P36557    | down | -3.729 | -1.899 | 3.729 | RC3             | Home sapiens RC3 neurogranin receptor chaperone (RC3), transcript variant 1, mRNA [NM 024457]   |
| A.33.P338127   | down | -3.729 | -1.899 | 3.729 | FAS             | Home sapiens Fas cell surface death receptor (FAS), transcript variant 1, mRNA [NM 000049]  |
| A.32.P198731   | down | -3.728 | -1.898 | 3.728 | NEURL1B         | Home sapiens neuronal ceroid lipofuscinosis 1B (NEURL1B), mRNA [NM 001142651]   |
| A.22.P00008271 | down | -3.728 | -1.898 | 3.728 | NEURL1B         | Home sapiens neuronal ceroid lipofuscinosis 1B (NEURL1B), mRNA [NM 001142651]   |
| A.33.P3311473  | down | -3.727 | -1.898 | 3.727 | ATP10D          | Home sapiens cytoskeletal neoplasm differentially expressed non-protein coding (GRNDE), transcript variant 4, long non-coding RNA [NR 110454]                     |
| A.33.P3311473  | down | -3.727 | -1.898 | 3.727 | ATP10D          | Home sapiens ATPase, class V, type 10D (ATP10D), mRNA [NM 029483]   |
| A.23.P420200   | down | -3.727 | -1.898 | 3.727 | ZNF527          | Home sapiens zinc finger protein 527 (ZNF527), mRNA [NM 029483]   |
| A.23.P163985   | down | -3.727 | -1.898 | 3.727 | ZNF527          | Home sapiens zinc finger protein 527 (ZNF527), mRNA [NM 029483]   |
| A.23.P163985   | down | -3.727 | -1.898 | 3.727 | ZNF527          | Home sapiens zinc finger protein 527 (ZNF527), mRNA [NM 029483]   |
| A.23.P163985   | down | -3.727 | -1.898 | 3.727 | ZNF527          | Home sapiens zinc finger protein 527 (ZNF527), mRNA [NM 029483]   |
| A.23.P24555    | down | -3.726 | -1.897 | 3.726 | ESZ2            | Home sapiens zinc finger protein 239 (ZNF239), mRNA [NM 015336]   |
| A.23.P24555    | down | -3.726 | -1.897 | 3.726 | ESZ2            | Home sapiens zinc finger protein 239 (ZNF239), mRNA [NM 015336]   |
| A.23.P56388    | down | -3.723 | -1.896 | 3.723 | PHLDB1          | Home sapiens pleckstrin homology domain family B, member 1 (PHLDB1), transcript variant 1, mRNA [NM 015157]   |
| A.23.P56388    | down | -3.722 | -1.896 | 3.722 | PHLDB1          | Home sapiens pleckstrin homology domain family B, member 1 (PHLDB1), transcript variant 1, mRNA [NM 015157]   |
| A.24.P258922   | down | -3.722 | -1.896 | 3.722 | LANCL1          | Home sapiens pleckstrin homology domain family B, member 1 (PHLDB1), transcript variant 1, mRNA [NM 015157]   |
| A.24.P258922   | down | -3.721 | -1.896 | 3.721 | SERF2           | Home sapiens LanC antibiotic synthetase component C-like 1, bacterial (LANCL1), transcript variant 1, mRNA [NM 006065]  |
| A.24.P258922   | down | -3.721 | -1.896 | 3.721 | SERF2           | Home sapiens small EDRK-rich factor 2 (SERF2), transcript variant 4, mRNA [NM 001193877]  |
| A.24.P00012634 | down | -3.716 | -1.896 | 3.716 | KLHD08B         | Home sapiens cDNA FLJ11677, fig. clone HEMBA 004778, [AK021728]   |
| A.24.P148836   | down | -3.716 | -1.894 | 3.716 | MAP3K14         | Home sapiens kinase domain containing 8B (KLHD08B), mRNA [NM 173646]  |
| A.23.P207319   | down | -3.713 | -1.892 | 3.713 | MAP3K14         | Home sapiens mitogen-activated protein kinase kinase kinase 14 (MAP3K14), mRNA [NM 003954]  |
| A.32.P121474   | down | -3.710 | -1.891 | 3.710 | IRAK1BP1        | Home sapiens interleukin-1 receptor-associated kinase 1 binding protein 1 (IRAK1BP1), mRNA [NM 001010844]   |
| A.23.P121474   | down | -3.708 | -1.891 | 3.708 | PROG            | Home sapiens prolyl-4-hydroxylase (unpublished) (unpublished), transcript variant 2, mRNA [NM 189418]   |
| A.24.P140475   | down | -3.708 | -1.890 | 3.708 | SORBS2          | Home sapiens sorbin and SH3 domain containing 2 (SORBS2), transcript variant 2, mRNA [NM 021969]  |
| A.33.P337415   | down | -3.705 | -1.890 | 3.705 | GNAL            | Home sapiens guanine nucleotide binding protein (G protein), alpha activating activity polypeptide, olfactory type (GNAL), transcript variant 1, mRNA [NM 021969] |
| A.33.P337415   | down | -3.705 | -1.890 | 3.705 | GNAL            | Home sapiens G-protein-coupled receptor class C family lysine kinase (FRC), mRNA [NM 002081]  |
| A.33.P328775   | down | -3.705 | -1.890 | 3.705 | PRESS7          | Home sapiens protease, serine, 57 (PRESS7), mRNA [NM 214710]  |
| A.22.P0000159  | down | -3.703 | -1.889 | 3.703 | BTBD3           | Home sapiens BTB (POZ) domain containing 3 (BTBD3), transcript variant 1, mRNA [NM 014892]  |
| A.24.P134358   | down | -3.702 | -1.888 | 3.702 | BTBD3           | Home sapiens guanylate binding protein 3 (BTBD3), mRNA [NM 013254]  |
| A.24.P134358   | down | -3.701 | -1.887 | 3.701 | BTBD3           | Home sapiens guanylate binding protein 3 (BTBD3), mRNA [NM 013254]  |
| A.21.P362859   | down | -3.700 | -1.887 | 3.700 | linc-C1orf177-2 | UNC95B1, linc-C1orf177-2, lincRNA, linc-C1orf177-2-2  |
| A.21.P362859   | down | -3.695 | -1.886 | 3.695 | linc-C1orf177-2 | UNC95B1, linc-C1orf177-2, lincRNA, linc-C1orf177-2-2  |
| A.22.P00012873 | down | -3.695 | -1.886 | 3.695 | PID1            | PREDIGD: Home sapiens uncharacterized LOC102724532 (LOC102724532), transcript variant X1, ncRNA [XR 428484]   |
| A.22.P00012873 | down | -3.695 | -1.886 | 3.695 | PID1            | PREDIGD: Home sapiens uncharacterized LOC102724532 (LOC102724532), transcript variant X1, ncRNA [XR 428484]   |
| A.23.P141892   | down | -3.689 | -1.884 | 3.689 | HSD11B1         | Home sapiens phosphatidylinositol interaction domain containing 1 (PID1), transcript variant 1, mRNA [NM 017383]  |
| A.23.P141892   | down | -3.689 | -1.884 | 3.689 | HSD11B1         | Home sapiens hydroxyacid (11-beta) dehydrogenase 1-like (HSD11B1), transcript variant 1, mRNA [NM 189706]   |
| A.23.P342786   | down | -3.679 | -1.879 | 3.679 | ANTXR1          | Home sapiens hydroxyacid (11-beta) dehydrogenase 1-like (HSD11B1), transcript variant 1, mRNA [NM 189706]   |
| A.33.P342786   | down | -3.675 | -1.878 | 3.675 | PIGX            | Home sapiens anthrax toxin receptor 1 (ANTXR1), transcript variant 2, mRNA [NM 053034]  |
| A.23.P342786   | down | -3.675 | -1.878 | 3.675 | PIGX            | Home sapiens phosphatidylinositol glycan anchor biosynthesis class X (PIGX), transcript variant 1, mRNA [NM 001166304]  |
| A.21.P0001429  | down | -3.675 | -1.878 | 3.675 | DEMD4A          | Home sapiens DENN/MADD domain containing 4 (DEMD4A), transcript variant 1, mRNA [NM 00114823]   |
| A.23.P164814   | down | -3.671 | -1.877 | 3.671 | ID2-AS1         | Home sapiens DENN/MADD domain containing 4 (DEMD4A), transcript variant 1, mRNA [NM 00114823]   |
| A.23.P164814   | down | -3.671 | -1.877 | 3.671 | ID2-AS1         | Home sapiens ID2 antisense RNA 1 (head to head) (ID2-AS1), transcript variant 2, long non-coding RNA [NR 110154]  |
| A.23.P164814   | down | -3.671 | -1.877 | 3.671 | ID2-AS1         | Home sapiens ID2 antisense RNA 1 (head to head) (ID2-AS1), transcript variant 2, long non-coding RNA [NR 110154]  |
| A.24.P3454084  | down | -3.671 | -1.876 | 3.671 | ZNF69           | Home sapiens chromosome 19 open reading frame 57 (C19orf57), mRNA [NM 024323]   |
| A.24.P3454084  | down | -3.671 | -1.876 | 3.671 | ZNF69           | Home sapiens zinc finger protein 69 (ZNF69), mRNA [NM 021915]   |
| A.24.P3454084  | down | -3.670 | -1.876 | 3.670 | NUDT11          | Home sapiens zinc finger protein 69 (ZNF69), mRNA [NM 021915]   |
| A.23.P3454084  | down | -3.669 | -1.876 | 3.669 | PAM50B          | Home sapiens family with sequence similarity 50, member B (PAM50B), mRNA [NM 017135]  |
| A.23.P3454084  | down | -3.667 | -1.875 | 3.667 | LRRC5B          | Home sapiens leucine rich repeat-containing 5B (LRRC5B), mRNA [NM 189075]   |
| A.23.P3454084  | down | -3.667 | -1.875 | 3.667 | LRRC5B          | Home sapiens leucine rich repeat-containing 5B (LRRC5B), mRNA [NM 189075]   |
| A.23.P3454084  | down | -3.667 | -1.875 | 3.667 | LRRC5B          | Home sapiens leucine rich repeat-containing 5B (LRRC5B), mRNA [NM 189075]   |
| A.23.P3454084  | down | -3.667 | -1.875 | 3.667 | LRRC5B          | Home sapiens leucine rich repeat-containing 5B (LRRC5B), mRNA [NM 189075]   |
| A.33.P340388   | down | -3.666 | -1.874 | 3.666 | CEP350          | Home sapiens bone marrow stromal cell antigen 2 (BST2), mRNA [NM 004335]  |
| A.33.P340388   | down | -3.666 | -1.874 | 3.666 | CEP350          | Home sapiens ceramide synthase 3 (CEP350), transcript variant 2, mRNA [NM 200448]   |
| A.33.P340388   | down | -3.665 | -1.873 | 3.665 | CEP350          | Home sapiens ceramide synthase 3 (CEP350), transcript variant 2, mRNA [NM 200448]   |
| A.33.P340388   | down | -3.665 | -1.873 | 3.665 | CEP350          | Home sapiens ceramide synthase 3 (CEP350), transcript variant 2, mRNA [NM 200448]   |
| A.33.P340388   | down | -3.665 | -1.873 | 3.665 | CEP350          | Home sapiens ceramide synthase 3 (CEP350), transcript variant 2, mRNA [NM 200448]   |
| A.32.P181762   | down | -3.661 | -1.872 | 3.661 | RUNX2           | Home sapiens 5-hydroxytryptamine 2C receptor 2, soluble (HTR2C), transcript variant 1, mRNA [NM 001024630]  |
| A.32.P181762   | down | -3.661 | -1.872 | 3.661 | RUNX2           | Home sapiens 5-hydroxytryptamine 2C receptor 2, soluble (HTR2C), transcript variant 1, mRNA [NM 001024630]  |
| A.23.P317264   | down | -3.659 | -1.871 | 3.659 | MEDGA           | Home sapiens cell cycle-related transcription factor 2 (RUNX2), transcript variant 1, mRNA [NM 001024630]   |
| A.23.P317264   | down | -3.657 | -1.871 | 3.657 | MEDGA           | Home sapiens fatty acid binding protein 5 (fatty acid-binding-associated) (FABP5), mRNA [NM 001444]   |
| A.33.P3249036  | down | -3.655 | -1.870 | 3.655 | BACE1           | Home sapiens MDS1 and EVI1 complex, locus (MECOM), transcript variant 2, mRNA [NM 005241]   |
| A.33.P3249036  | down | -3.655 | -1.870 | 3.655 | BACE1           | Home sapiens beta-site APP-cleaving enzyme 1 (BACE1), transcript variant a, mRNA [NM 012104]  |
| A.33.P3249036  | down | -3.654 | -1.870 | 3.654 | ZNF846          | Home sapiens beta-site APP-cleaving enzyme 1 (BACE1), transcript variant a, mRNA [NM 012104]  |
| A.33.P3249036  | down | -3.654 | -1.870 | 3.654 | ZNF846          | Home sapiens zinc finger protein 846 (ZNF846), mRNA [NM 001071624]  |























|                |      |       |        |       |                    |   |
|----------------|------|-------|--------|-------|--------------------|---|
| A.23.P53739    | down | 2.707 | -1.437 | 2.707 | OD245              | Home sapiens cell division cycle 45 (CDC45), transcript variant 2, mRNA [NM_003504]   |
| A.23.P240768   | down | 2.706 | -1.436 | 2.706 | SHBG               | Home sapiens sex hormone-binding globulin (SHBG), transcript variant 1, mRNA [NM_001040]                                    |
| A.33.P343454   | down | 2.706 | -1.436 | 2.706 | DCAF17             | Home sapiens DCAF1 and CUL4A associated factor 17 (DCAF17), transcript variant 1, mRNA [NM_025000]                          |
| A.23.P216655   | down | 2.706 | -1.436 | 2.706 | TRIM14             | Home sapiens tripartite motif containing 14 (TRIM14), transcript variant 1, mRNA [NM_014788]                                |
| A.23.P364444   | down | 2.705 | -1.436 | 2.705 | G12orf60           | Home sapiens chromosome 12 open reading frame 60 (G12orf60), mRNA [NM_175874]   |
| A.23.P7896     | down | 2.705 | -1.436 | 2.705 | DUSP22             | Home sapiens dual specificity phosphatase 22 (DUSP22), transcript variant 2, mRNA [NM_020185]                               |
| A.24.P253827   | down | 2.705 | -1.436 | 2.705 | AP2B1              | Home sapiens adaptor-related protein complex 2, beta 1 subunit (AP2B1), transcript variant 1, mRNA [NM_0030006]             |
| A.33.P148796   | down | 2.703 | -1.434 | 2.703 | UBXNP8             | Home sapiens UBX domain protein 8 (UBXNP8), mRNA [NM_00197819]  |
| A.24.P210176   | down | 2.702 | -1.434 | 2.702 | ITGAB              | Home sapiens integrin, alpha 8 (ITGAB), transcript variant 2, mRNA [NM_002161]  |
| A.24.P1160350  | down | 2.702 | -1.434 | 2.702 | PSD93              | Home sapiens proteotomus proteotomus macrodomain 285 subunit, non-A1 Par6 3 (PSD93), transcript variant 1, mRNA [NM_002813] |
| A.24.P203262   | down | 2.702 | -1.434 | 2.702 | ZNF623             | Home sapiens zinc finger protein 623 (ZNF623), transcript variant 2, mRNA [NM_0032460]                                      |
| A.23.P273114   | down | 2.698 | -1.432 | 2.698 | PROS1              | Home sapiens prothrombin 3 (alpha) (PROS1), mRNA [NM_000313]  |
| A.33.P3313830  | down | 2.695 | -1.431 | 2.695 | UNC118A            | Home sapiens long non-coding RNA, sense, coding RNA, 184 (UNC118A), long non-coding RNA [NR_014360]                         |
| A.33.P3300660  | down | 2.695 | -1.430 | 2.695 | GRG1               | Home sapiens nuclear pore complex, coding RNA, 184 (UNC118A), long non-coding RNA [NM_00105182]                             |
| A.24.P337419   | down | 2.693 | -1.429 | 2.693 | ITGB6              | Home sapiens integrin, beta 6 (ITGB6), transcript variant 1, mRNA [NM_003953]   |
| A.24.P27332    | down | 2.691 | -1.428 | 2.691 | TCF4               | Home sapiens transcription factor 4 (TCF4), transcript variant 2, mRNA [NM_003199]  |
| A.23.P128613   | down | 2.690 | -1.428 | 2.690 | KDEL1              | Home sapiens KDEL-like 1 (KDEL1), transcript variant 1, mRNA [NM_024089]  |
| A.23.P214425   | down | 2.689 | -1.427 | 2.689 | FCGBP              | Home sapiens ficolin 3 binding protein (FCGBP), mRNA [NM_003890]  |
| A.24.P334241   | down | 2.689 | -1.427 | 2.689 | ZNF882             | Home sapiens zinc finger protein 882 (ZNF882), mRNA [NM_001089220]  |
| A.24.P306720   | down | 2.688 | -1.426 | 2.688 | FOXN3-AS1          | Home sapiens FOXN3 antisense RNA 1 (FOXN3-AS1), long non-coding RNA [NR_085800]   |
| A.33.P3386859  | down | 2.688 | -1.426 | 2.688 | PHH1               | Home sapiens prolyl 3-hydroxylase 1 (PHH1), transcript variant 1, mRNA [NM_023356]  |
| A.24.P312225   | down | 2.687 | -1.426 | 2.687 | lnc-AF131219.3.1-1 | Home sapiens protein for hypothetical protein (ZCOPRF15), [AJ312027]  |
| A.33.P3278140  | down | 2.687 | -1.426 | 2.687 | KCNJ15             | Home sapiens potassium channel, inwardly rectifying subfamily J, member 15 (KCNJ15), transcript variant 1, mRNA [NM_170736] |
| A.23.P17172    | down | 2.687 | -1.426 | 2.687 | PNP2               | Home sapiens phosphonucleotidase 2 (PNP2), mRNA [NM_002990]   |
| A.23.P339365   | down | 2.686 | -1.425 | 2.686 | ZNF448             | Home sapiens zinc finger protein 448 (ZNF448), mRNA [NM_152695]   |
| A.23.P36930    | down | 2.685 | -1.423 | 2.685 | FGA11              | Home sapiens beta-1,4-galactosyltransferase 1 (FGA11), mRNA [NM_086816]   |
| A.24.P54232    | down | 2.685 | -1.423 | 2.685 | CD4P               | Home sapiens adenosine deaminase 2 (CD4P), long non-coding RNA [NM_026531]  |
| A.24.P54232    | down | 2.682 | -1.423 | 2.682 | CD4P               | Home sapiens adenosine deaminase 2 (CD4P), long non-coding RNA [NM_001204]  |
| A.21.P0014378  | down | 2.681 | -1.423 | 2.681 | HK1                | Home sapiens H1 histone family member 1 (H1), transcript variant 1, mRNA [NM_0010424]                                       |
| A.22.P00060606 | down | 2.679 | -1.421 | 2.679 | lnc-ACE2-1         | Home sapiens cDNA FL1245.f5, clone COL1184 (AK024888)   |
| A.33.P134200   | down | 2.678 | -1.421 | 2.678 | ZCCH2C-1           | Home sapiens zinc finger, CCHC domain containing 2 (ZCCH2C), transcript variant 1, mRNA [NM_017742]                         |
| A.33.P320569   | down | 2.677 | -1.420 | 2.677 | AGP3               | Home sapiens angiotensin 3 (GII blood group) (AGP3), mRNA [NM_004925]   |
| A.33.P325872   | down | 2.676 | -1.420 | 2.676 | LOC101927487       | Home sapiens uncharacterized LOC101927487 (LOC101927487), transcript variant 1, long non-coding RNA [NR_110088]             |
| A.24.P303524   | down | 2.675 | -1.419 | 2.675 | MICAL2             | Home sapiens MICAL-like 2 (MICAL2), mRNA [NM_182924]  |
| A.33.P344646   | down | 2.674 | -1.419 | 2.674 | PCDH7              | Home sapiens protocadherin 7 (PCDH7), transcript variant a, mRNA [NM_002536]  |
| A.33.P331170   | down | 2.674 | -1.419 | 2.674 | ZNF789             | Home sapiens zinc finger protein 789 (ZNF789), transcript variant 1, mRNA [NM_213803]                                       |
| A.21.P0000379  | down | 2.674 | -1.419 | 2.674 | SNORD67            | Home sapiens small nucleolar RNA, C/D box 67 (SNORD67), small nucleolar RNA [NR_003056]                                     |
| A.33.P220750   | down | 2.673 | -1.419 | 2.673 | PLGLB1             | Home sapiens plasmogen-like B1 (PLGLB1), mRNA [NM_001023392]  |
| A.22.P0002547  | down | 2.673 | -1.418 | 2.673 | lnc-GRD2P-1        | Synthetic construct Home sapiens gateway clone IMAGE:00018098 3' read ZDHHC4 mRNA [CH74692]                                 |
| A.22.P0008731  | down | 2.672 | -1.418 | 2.672 | DSC3               | Home sapiens cDNA FL1336.f3, clone BRAMY207346 (AK090632)   |
| A.33.P326888   | down | 2.671 | -1.417 | 2.671 | LOC10272911        | Home sapiens desmocollin 3 (DSC3), transcript variant Desca, mRNA [NM_001941]   |
| A.33.P300354   | down | 2.669 | -1.416 | 2.669 | CD35A              | PREDICTED: Home sapiens uncharacterized LOC10272911 (LOC10272911), mRNA [XR_426551]   |
| A.33.P335462   | down | 2.669 | -1.416 | 2.669 | CD35A              | Home sapiens C2 calcium-dependent domain containing 2A (CD35A), mRNA [NM_203222]  |
| A.33.P335462   | down | 2.668 | -1.416 | 2.668 | CD35A              | Home sapiens C2 calcium-dependent domain containing 2 (CD35A), transcript variant 2, mRNA [NM_001042]                       |
| A.33.P3252045  | down | 2.668 | -1.416 | 2.668 | GNP                | Home sapiens cDNA FL1444.f5, clone H1YM1230383 (AK126136)   |
| A.33.P322045   | down | 2.667 | -1.415 | 2.667 | AKNA               | Home sapiens BTG family, member 2 (BTG), mRNA [NM_006763]   |
| A.22.P36241    | down | 2.667 | -1.415 | 2.667 | BT2                | Home sapiens tumor necrosis factor ligand superfamily, member 13 (TNFSF13), transcript variant, fibronin, mRNA [NM_172088]  |
| A.23.P124200   | down | 2.665 | -1.414 | 2.665 | TNFSF13            | Home sapiens cardiomyopathy associated 5 (OMYA5), mRNA [NM_153810]  |
| A.23.P12446    | down | 2.665 | -1.413 | 2.665 | GM7A5              | Home sapiens gamma retrotransposon integrase 1 (GIN1), mRNA [NM_0017676]  |
| A.33.P334455   | down | 2.662 | -1.412 | 2.662 | GIN1               | Home sapiens histone cluster 1, H3b (H3T1H3H), mRNA [NM_003936]   |
| A.33.P3404869  | down | 2.661 | -1.412 | 2.661 | HIST1H3H           | Home sapiens proline rich, 5, like (PRR5L), transcript variant 2, mRNA [NM_024841]  |
| A.23.P116512   | down | 2.660 | -1.411 | 2.660 | PRR5L              | Home sapiens cartilage associated protein (CRTAP), mRNA [NM_008371]   |
| A.24.P71661    | down | 2.658 | -1.411 | 2.658 | GRTAP              | lnc-ENPPP1-2  |
| A.22.P0005771  | down | 2.657 | -1.410 | 2.657 | lnc-ENPPP1-2       | lnc-ENPPP1-2, lncRNA [NM_003630]  |
| A.33.P324586   | down | 2.657 | -1.410 | 2.657 | PEX3               | Home sapiens peroxisomal biogenesis factor 3 (PEX3), mRNA [NM_003630]   |
| A.33.P3358163  | down | 2.657 | -1.410 | 2.657 | NPAT1              | Home sapiens nuclear pore associated protein 1 (NPAT1), mRNA [NM_018958]  |
| A.33.P3414157  | down | 2.657 | -1.410 | 2.657 | MUPH               | Home sapiens melanophilin (MUPH), transcript variant 1, mRNA [NM_024101]  |
| A.24.P373174   | down | 2.657 | -1.410 | 2.657 | PA27A              | Home sapiens PA27A, member PAS oncogene family (PA27A), transcript variant 1, mRNA [NM_004580]                              |
| A.22.P0013689  | down | 2.657 | -1.410 | 2.657 | PA27A              | Home sapiens PA27A, member PAS oncogene family (PA27A), transcript variant 2, mRNA [NM_004580]                              |
| A.33.P321738   | down | 2.656 | -1.409 | 2.656 | PA522A             | Home sapiens PA522A, member PAS oncogene family (PA522A), mRNA [NM_026673]  |
| A.24.P301223   | down | 2.656 | -1.409 | 2.656 | ZNF44              | Home sapiens zinc finger protein 44 (ZNF44), long non-coding RNA [NM_026673]  |
| A.33.P324816   | down | 2.656 | -1.409 | 2.656 | ZNF44              | Home sapiens zinc finger protein 44 (ZNF44), mRNA [NM_152945]   |
| A.33.P324816   | down | 2.656 | -1.409 | 2.656 | ZNF813             | Home sapiens zinc finger protein 813 (ZNF813), mRNA [NM_004030]   |
| A.33.P3308949  | down | 2.656 | -1.409 | 2.656 | DBT                | Home sapiens dyshidrotic eczema associated chain, transcriptase E2 (DBT), mRNA [NM_001918]                                  |
| A.33.P335051   | down | 2.656 | -1.409 | 2.656 | G6orf48            | Home sapiens chromosome 6, open reading frame 48 (G6orf48), transcript variant 4, mRNA [NM_001287488]                       |
| A.23.P329259   | down | 2.654 | -1.408 | 2.654 | FHDC1              | Home sapiens FH2 domain containing 1 (FHDC1), mRNA [NM_033338]  |
| A.33.P3298550  | down | 2.654 | -1.408 | 2.654 | SLC16A8            | Home sapiens solute carrier family 16 (monocarboxylate transporter), member 8 (SLC16A8), mRNA [NM_013365]                   |
| A.33.P327842   | down | 2.654 | -1.408 | 2.654 | ZNF438             | Home sapiens zinc finger protein 438 (ZNF438), transcript variant 1, mRNA [NM_00107195]                                     |
| A.24.P240011   | down | 2.654 | -1.408 | 2.654 | DAK                | Home sapiens dihydroxyacetone kinase 2 homolog 3 (S. cerevisiae) (DAK), mRNA [NM_015533]                                    |
| A.24.P300292   | down | 2.653 | -1.408 | 2.653 | TRAPP2C6A          | Home sapiens trafficking protein particle complex 6A (TRAPP2C6A), transcript variant 1, mRNA [NM_024108]                    |
| A.24.P142818   | down | 2.653 | -1.408 | 2.653 | DLX1               | Home sapiens distal-less homeobox 1 (DLX1), transcript variant 1, mRNA [NM_178120]  |
| A.24.P142769   | down | 2.652 | -1.407 | 2.652 | HIRF3              | Home sapiens HIRF interacting protein 3 (HIRP3), transcript variant 1, mRNA [NM_003896]                                     |
| A.24.P234656   | down | 2.651 | -1.407 | 2.651 | CAMLG              | Home sapiens HPA interacting protein 3 (HIRP3), transcript variant 2, mRNA [NM_001749]                                      |
| A.33.P3216601  | down | 2.651 | -1.406 | 2.651 | PHF1               | Home sapiens fragile histidine triad (PHF1), transcript variant 1, mRNA [NM_002012]   |
| A.24.P31839    | down | 2.650 | -1.406 | 2.650 | MIR205HG           | Home sapiens zinc finger protein 337 (ZNF337), transcript variant 2, mRNA [NM_00119658]                                     |
| A.22.P0003294  | down | 2.648 | -1.405 | 2.648 | MIR205HG           | Home sapiens MIR205 host gene (non-protein coding) (MIR205HG), mRNA [NM_00110648]   |
| A.22.P0023712  | down | 2.648 | -1.405 | 2.648 | EM13A              | X02498 NC047 C08 Home sapiens cDNA clone IMAGE:5988103927, IMAGE:430185 mRNA sequence [S026498]                             |
| A.33.P324264   | down | 2.648 | -1.404 | 2.648 | EPB1               | Home sapiens family with sequence similarity 2 (EPB1), transcript variant 1, mRNA [NM_001242780]                            |
| A.33.P324264   | down | 2.645 | -1.403 | 2.645 | FAM68B1            | Home sapiens family with sequence similarity 88, member B1 (FAM68B1), transcript variant 1, mRNA [NM_001083637]             |
| A.22.P0019636  | down | 2.645 | -1.403 | 2.645 | lnc-TMEM6-1        | UNC95B lincRNA, lnc-TMEM6-1, lncRNA [lnc-TMEM6-1]   |
| A.33.P3331021  | down | 2.642 | -1.402 | 2.642 | LOC100128148       | Home sapiens uncharacterized LOC100128148 (LOC100128148), long non-coding RNA [NR_038809]                                   |
| A.22.P00003175 | down | 2.642 | -1.402 | 2.642 | GISH               | Home sapiens cytokine inducible SH2-containing protein (GISH), transcript variant 2, mRNA [NM_145071]                       |
| A.23.P144966   | down | 2.641 | -1.401 | 2.641 | CHRNA7             | Home sapiens cholinergic receptor, nicotinic, alpha 7 (neuronal) (CHRNA7), transcript variant 2, mRNA [NM_001190455]        |
| A.23.P39969    | down | 2.641 | -1.401 | 2.641 | CHRNA7             | Home sapiens cholinergic receptor, nicotinic, alpha 7 (neuronal) (CHRNA7), transcript variant 2, mRNA [NM_001190455]        |

|                |        |       |      |  |      |  |  |   |
|----------------|--------|-------|------|--|------|--|--|---|
| A.22.P0004237  | -2.641 | 2.641 | down |  | down |  |  | Home sapiens dyonin, axonemal, left chain 4 (DNAL4, mRNA [NM 0057740])  |
| A.23.P17880    | -2.640 | 2.640 | down |  | down |  |  | Home sapiens immunoglobulin superfamily, member 9 (IGSF9), transcript variant 2, mRNA [NM 0207393]                                |
| A.23.P86441    | -1.400 | 2.640 | down |  | down |  |  | Home sapiens albumin family member 2 (SHROOM2), mRNA [NM 0016449]   |
| A.33.P217755   | -2.639 | 2.639 | down |  | down |  |  | Home sapiens ADP-ribosylation factor related protein 1 (ARFRP1), transcript variant 6, mRNA [NM 01267549]                         |
| A.33.P242743   | -2.639 | 2.639 | down |  | down |  |  | Home sapiens zinc finger protein 81 (ZNF81), transcript variant 2, mRNA [NM 0101911]  |
| A.23.P21721    | -2.638 | 2.638 | down |  | down |  |  | Home sapiens uncharacterized LOC101921789 (LOC101921789), long non-coding RNA [NR 129442]   |
| A.19.P00316454 | -2.638 | 2.638 | down |  | down |  |  | Home sapiens transmembrane protein 189B (TMEM189B), mRNA [NM 024121]  |
| A.33.P2504654  | -2.635 | 2.635 | down |  | down |  |  | Home sapiens SH3-domain binding protein 2 (SH3BP2), transcript variant 1, mRNA [NM 00145655]                                      |
| A.33.P2312700  | -2.634 | 2.634 | down |  | down |  |  | Home sapiens ZMP-responsive element binding protein 3-like 4 (GREB3L4), transcript variant 1, mRNA [NM 308988]                    |
| A.23.P23232    | -2.633 | 2.633 | down |  | down |  |  | Home sapiens KNAF17 (KNAF17), transcript variant 1, mRNA [NM 0010028192]  |
| A.23.P23232    | -2.632 | 2.632 | down |  | down |  |  | Home sapiens KNAF17 (KNAF17), transcript variant 2, mRNA [NM 0010028192]  |
| A.23.P23232    | -2.631 | 2.631 | down |  | down |  |  | Home sapiens KNAF17 (KNAF17), transcript variant 3, mRNA [NM 0010028192]  |
| A.23.P23232    | -2.630 | 2.630 | down |  | down |  |  | Home sapiens KNAF17 (KNAF17), transcript variant 4, mRNA [NM 0010028192]  |
| A.33.P2210400  | -2.630 | 2.630 | down |  | down |  |  | Home sapiens SMAD family member 5 (SMAD5), transcript variant 2, mRNA [NM 001001418]  |
| A.33.P221045   | -2.630 | 2.630 | down |  | down |  |  | Home sapiens SMAD family member 5 (SMAD5), transcript variant 1, mRNA [NM 001001418]  |
| A.23.P2036375  | -2.627 | 2.627 | down |  | down |  |  | Home sapiens protein kinase C delta binding protein (PRKCBP), mRNA [NM 045040]  |
| A.23.P376627   | -2.625 | 2.625 | down |  | down |  |  | Home sapiens D-2-hydroxyglutarate dehydrogenase (DHAPDH), transcript variant 1, mRNA [NM 152763]                                  |
| A.23.P44828    | -2.624 | 2.624 | down |  | down |  |  | Home sapiens 2'-5'-oligoadenylate synthetase 1, 40/48kDa (OAS1), transcript variant 2, mRNA [NM 0025534]                          |
| A.23.P54376    | -2.624 | 2.624 | down |  | down |  |  | Home sapiens stromalin (EPH2)-like 1 (STOML1), transcript variant 1, mRNA [NM 0046059]  |
| A.22.P00012829 | -2.621 | 2.621 | down |  | down |  |  | Home sapiens TMEM16B (TMEM16B), transcript variant 1, mRNA [NM 005016]  |
| A.33.P2304382  | -2.621 | 2.621 | down |  | down |  |  | Home sapiens TMEM16B (TMEM16B-AS1), transcript variant 4, long non-coding RNA [NR 105016]   |
| A.33.P3666884  | -2.620 | 2.620 | down |  | down |  |  | Home sapiens NADH dehydrogenase (ubiquinone) complex 1, assembly factor 6 (NDUFA6), mRNA [NM 152416]                              |
| A.33.P3424062  | -2.619 | 2.619 | down |  | down |  |  | Home sapiens patatin-like phospholipase domain containing 7 (PNPLA7), transcript variant 1, mRNA [NM 001986377]                   |
| A.19.P00064417 | -2.618 | 2.618 | down |  | down |  |  | Home sapiens potassium channel, voltage-gated modifier subfamily F, member 1 (KCNFT), mRNA [NM 002238]                            |
| A.33.P818008   | -2.618 | 2.618 | down |  | down |  |  | GNAT14 HUMAN (GNAT14) ZNF90 protein (Fragment), partial (8) [THC286139]   |
| A.21.P0003900  | -2.616 | 2.616 | down |  | down |  |  | lnc-GGCT-1  |
| A.33.P2635193  | -2.614 | 2.614 | down |  | down |  |  | Home sapiens long intergenic non-protein coding RNA 673 (LINC00873), long non-coding RNA [NR 038488]                              |
| A.23.P5001797  | -2.613 | 2.613 | down |  | down |  |  | Home sapiens myosin alpha 1C (gamma), KMT1C, mRNA [NM 00108219]   |
| A.33.P2635193  | -2.613 | 2.613 | down |  | down |  |  | Home sapiens myosin alpha 1C (gamma), KMT1C, mRNA [NM 00108219]   |
| A.23.P2635193  | -2.612 | 2.612 | down |  | down |  |  | Home sapiens myosin alpha 1C (gamma), KMT1C, mRNA [NM 00108219]   |
| A.23.P2635193  | -2.612 | 2.612 | down |  | down |  |  | Home sapiens myosin alpha 1C (gamma), KMT1C, mRNA [NM 00108219]   |
| A.23.P2635193  | -2.612 | 2.612 | down |  | down |  |  | Home sapiens myosin alpha 1C (gamma), KMT1C, mRNA [NM 00108219]   |
| A.21.P0000989  | -2.611 | 2.611 | down |  | down |  |  | lnc-ARGF2-2   |
| A.33.P2617607  | -2.611 | 2.611 | down |  | down |  |  | lnc-ARGF2-2   |
| A.21.P0000834  | -2.611 | 2.611 | down |  | down |  |  | PREDICED: Home sapiens uncharacterized LOC29870 (LOC29870), misc RNA [XR 244139]  |
| A.23.P184455   | -2.610 | 2.610 | down |  | down |  |  | lnc-GATA3-2   |
| A.23.P460309   | -2.609 | 2.609 | down |  | down |  |  | Home sapiens mediator of DNA-damage checkpoint 1 (MDC1), mRNA [NM 014641]   |
| A.24.P132069   | -2.609 | 2.609 | down |  | down |  |  | Home sapiens Fc receptor-like A (FCRLA), transcript variant 2, mRNA [NM 032728]   |
| A.24.P144882   | -2.607 | 2.607 | down |  | down |  |  | Home sapiens high mobility group nucleosomal binding domain 3 (HMGN3), transcript variant 2, mRNA [NM 138700]                     |
| A.22.P00010420 | -2.607 | 2.607 | down |  | down |  |  | Home sapiens signal sequence receptor, alpha (SSR1), transcript variant 1, mRNA [NM 008144]                                       |
| A.23.P88007    | -2.606 | 2.606 | down |  | down |  |  | Home sapiens LOC104988389, transcript variant 3, long non-coding RNA [NR 130145]  |
| A.23.P110167   | -2.605 | 2.605 | down |  | down |  |  | Home sapiens ATP1B3   |
| A.23.P14280    | -2.605 | 2.605 | down |  | down |  |  | Home sapiens ATPase, Na(+)-K(+)-transporting, beta 3, polypeptide (ATP1B3), mRNA [NM 0016179]                                     |
| A.23.P203229   | -2.605 | 2.605 | down |  | down |  |  | Home sapiens caspase recruitment domain family, member 8 (CARD8), transcript variant 1, mRNA [NM 014959]                          |
| A.33.P2635193  | -2.604 | 2.604 | down |  | down |  |  | Home sapiens zinc finger protein 10 (ZNF10), mRNA [NM 015394]   |
| A.33.P2635193  | -2.604 | 2.604 | down |  | down |  |  | Home sapiens zinc finger protein 10 (ZNF10), mRNA [NM 015394]   |
| A.33.P2635193  | -2.604 | 2.604 | down |  | down |  |  | Home sapiens ADP-ribosylation factor-like 14 effector protein (ARL14EP), mRNA [NM 153316]   |
| A.23.P14438    | -2.603 | 2.603 | down |  | down |  |  | Home sapiens NRG3 activating protein pseudogene 1 (NRG3-AS1), long non-coding RNA [NR 130234]                                     |
| A.23.P14438    | -2.603 | 2.603 | down |  | down |  |  | Home sapiens NRG3 activating protein pseudogene 1 (NRG3-AS1), long non-coding RNA [NR 130234]                                     |
| A.33.P2635193  | -2.602 | 2.602 | down |  | down |  |  | Home sapiens guanine nucleotide binding protein, beta 3 (GNB3), transcript variant 2, mRNA [NM 138235]                            |
| A.24.P211871   | -2.602 | 2.602 | down |  | down |  |  | Home sapiens guanine nucleotide binding protein, beta 3 (GNB3), transcript variant 3, non-coding RNA [NR 163822]                  |
| A.24.P211871   | -2.601 | 2.601 | down |  | down |  |  | Home sapiens G10 correlates subunit 8 (GDB8), transcript variant 1, mRNA [NM 017886]  |
| A.21.P0004315  | -2.601 | 2.601 | down |  | down |  |  | lnc-GBBP1-2   |
| A.23.P309503   | -2.600 | 2.600 | down |  | down |  |  | Home sapiens roudabout, axon guidance receptor, homolog 1 (ROSOHLIA) (ROBO1), transcript variant 2, mRNA [NM 133631]              |
| A.33.P373804   | -2.600 | 2.600 | down |  | down |  |  | Home sapiens nicotinamide phosphoribosyltransferase (NAMPT), mRNA [NM 0057746]  |
| A.33.P3248052  | -2.600 | 2.600 | down |  | down |  |  | Home sapiens neuregulin 4, Y-linked (NLGN4Y), transcript variant 2, mRNA [NM 00164238]  |
| A.23.P47885    | -2.600 | 2.600 | down |  | down |  |  | Home sapiens adrenergic-rich repeats and immunoglobulin-like domains 3 (LRG3), transcript variant 2, mRNA [NM 153377]             |
| A.23.P211207   | -2.598 | 2.598 | down |  | down |  |  | Home sapiens adrenergic-rich repeats and immunoglobulin-like domains 3 (LRG3), transcript variant 1, mRNA [NM 001112]             |
| A.32.P219520   | -2.598 | 2.598 | down |  | down |  |  | Home sapiens tumor necrosis factor, alpha-induced protein 8 (TNFAIP8), transcript variant 1, mRNA [NM 014930]                     |
| A.33.P3398318  | -2.597 | 2.597 | down |  | down |  |  | Home sapiens guanine nucleotide binding protein, gamma 12 (GNB12), transcript variant 1, mRNA [NM 018641]                         |
| A.24.P2402026  | -2.596 | 2.596 | down |  | down |  |  | Home sapiens cytochrome b5 domain containing 2 (CYB5D2), transcript variant 1, mRNA [NM 144611]                                   |
| A.33.P348164   | -2.595 | 2.595 | down |  | down |  |  | Home sapiens tubulin tyrosine ligase-like family member 7 (TTL7), mRNA [NM 024688]  |
| A.19.P0081048  | -2.595 | 2.595 | down |  | down |  |  | Home sapiens ZEB1 antiterase RNA 1 (ZEB1-AS1), long non-coding RNA [NR 024984]  |
| A.24.P2635193  | -2.594 | 2.594 | down |  | down |  |  | Home sapiens glutamate-ammonia ligase (GLUL), transcript variant 1, mRNA [NM 002065]  |
| A.33.P3315221  | -2.594 | 2.594 | down |  | down |  |  | Home sapiens zinc finger protein 81 (ZNF81), transcript variant 1, mRNA [NM 00124219]   |
| A.23.P2635193  | -2.594 | 2.594 | down |  | down |  |  | Home sapiens zinc finger protein 81 (ZNF81), transcript variant 1, mRNA [NM 00124219]   |
| A.33.P2635193  | -2.594 | 2.594 | down |  | down |  |  | Home sapiens zinc finger protein 81 (ZNF81), transcript variant 1, mRNA [NM 00124219]   |
| A.33.P2635193  | -2.592 | 2.592 | down |  | down |  |  | Home sapiens chromosome 7 open reading frame 22 (C7orf22), mRNA [NM 00133629]   |
| A.33.P2215883  | -2.592 | 2.592 | down |  | down |  |  | Home sapiens cysteine-rich hydrophobic domain 1 (CHC1), transcript variant 1, mRNA [NM 001038400]                                 |
| A.23.P186951   | -2.591 | 2.591 | down |  | down |  |  | Home sapiens RABP-tyrosine and C/EBP4-zinc finger containing 1 (RBBK1), transcript variant 2, mRNA [NM 031229]                    |
| A.23.P23575    | -2.590 | 2.590 | down |  | down |  |  | Home sapiens solid cancer family 38 (zinc finger) member 1 (SLC39A1), transcript variant 1, mRNA [NM 014437]                      |
| A.24.P351420   | -2.590 | 2.590 | down |  | down |  |  | Home sapiens zinc finger, DHHC-type containing 3 (ZDHHC3), transcript variant 2, mRNA [NM 016588]                                 |
| A.33.P308105   | -2.586 | 2.586 | down |  | down |  |  | Home sapiens gamma-glutamyl hydrolase (GGH), transcript variant 1, mRNA [NM 003878]   |
| A.33.P2402076  | -2.586 | 2.586 | down |  | down |  |  | BCL2-associated agonist of cell death (Source:HGNC Symbol;Acc:HGNC:3368) [ENST00000544271]  |
| A.23.P208228   | -2.584 | 2.584 | down |  | down |  |  | Home sapiens vesicular protein sorting 13 homolog C (sevensiae) (VPS13C), transcript variant 2A, mRNA [NM 020821]                 |
| A.23.P385105   | -2.584 | 2.584 | down |  | down |  |  | Home sapiens phospholipase C, delta 4 (PLD4), mRNA [NM 032726]  |
| A.23.P2311688  | -2.583 | 2.583 | down |  | down |  |  | Home sapiens PAAS and EF-hand domain containing (PASEF), mRNA [NM 152573]   |
| A.33.P3065266  | -2.582 | 2.582 | down |  | down |  |  | Home sapiens VAMP (vesicle-associated membrane protein)-associated protein B and C (VAPB), transcript variant 1, mRNA [NM 004738] |
| A.33.P3065266  | -2.582 | 2.582 | down |  | down |  |  | Home sapiens VAMP (vesicle-associated membrane protein)-associated protein B and C (VAPB), transcript variant 1, mRNA [NM 004738] |
| A.33.P222082   | -2.582 | 2.582 | down |  | down |  |  | Home sapiens zinc finger protein 589 (ZNF589), transcript variant 2, mRNA [NM 032497]   |
| A.23.P264384   | -2.582 | 2.582 | down |  | down |  |  | Home sapiens zinc finger protein 589 (ZNF589), transcript variant 2, mRNA [NM 032497]   |
| A.33.P3410891  | -2.580 | 2.580 | down |  | down |  |  | Home sapiens uncharacterized LOC101921927 (LOC101921927), transcript variant 2, long non-coding RNA [NR 10285]                    |
| A.23.P100196   | -2.580 | 2.580 | down |  | down |  |  | Home sapiens uncharacterized LOC101921927 (LOC101921927), transcript variant 3, long non-coding RNA [NR 10285]                    |
| A.32.P420520   | -2.579 | 2.579 | down |  | down |  |  | Home sapiens uncharacterized LOC101921927 (LOC101921927), transcript variant 4, long non-coding RNA [NR 10285]                    |
| A.33.P3230881  | -2.578 | 2.578 | down |  | down |  |  | Home sapiens THAP7, alpha-1-2-thioestertransferase (ALG10), mRNA [NM 032834]  |
| A.21.P0010484  | -2.576 | 2.576 | down |  | down |  |  | Home sapiens ALG10, alpha-1-2-thioestertransferase (ALG10), mRNA [NM 032834]  |
| A.23.P308105   | -2.575 | 2.575 | down |  | down |  |  | Home sapiens mRNA for hypothetical protein (G3ORF16), [AJ312026]  |
| A.23.P20813    | -2.575 | 2.575 | down |  | down |  |  | Home sapiens histone cluster 1, H4k (HIST1H4K), mRNA [NM 003541]  |
| A.24.P125283   | -2.575 | 2.575 | down |  | down |  |  | Home sapiens histone dimerase/lysine 4 (HDAC5), transcript variant 3, mRNA [NM 001015053]   |

|                |        |        |      |                 |   |
|----------------|--------|--------|------|-----------------|---|
| A.23.P30484    | 2.574  | -1.364 | down | PRR7            | Home sapiens proline rich 7 (Synaptic PRR7), transcript variant 1, mRNA [NM 030657]   |
| A.33.P333649   | -2.573 | -1.364 | down | ELYWCH1         | Home sapiens ELYWCH-type zinc finger 1 (ELYWCH1), transcript variant 1, mRNA [NM 032236]  |
| A.33.P48561    | 2.572  | -1.363 | down | EFS             | Home sapiens embryonal Fyn-associated substrate (EFS), transcript variant 1, mRNA [NM 009864]                                   |
| A.23.P34766    | 2.572  | -1.363 | down | SLX4IP          | Home sapiens SLX4 interacting protein (SLX4IP), mRNA [NM 001009608]   |
| A.23.P37265    | -2.572 | -1.363 | down | APM1            | Home sapiens adaptor-related protein complex 5, mu 1 subunit (APM1), transcript variant 1, mRNA [NM 018229]                     |
| A.23.P162746   | -2.571 | -1.363 | down | GRYL1           | Home sapiens crystallin, lambda 1 (GRYL1), mRNA [NM 015974]   |
| A.23.P40210    | 2.571  | -1.362 | down | RLN1            | Home sapiens relasin 1 (RLN1), mRNA [NM 006911]   |
| A.22.P0005477  | -2.570 | -1.362 | down | DYNLL2          | dyenin, light chain, COB-type 2 [Source:HGNC Symbol;Acc:HGNC:24596] [ENS:00000579991]   |
| A.21.P401740   | 2.570  | -1.362 | down | GAA             | Home sapiens glucosylidase, alpha acid (GAA), transcript variant 1, mRNA [NM 001192]  |
| A.23.P33028    | 2.570  | -1.362 | down | GAFA            | PROTEIN-1: Home sapiens chromatin 9 open reading frame 141 (COBR141), transcript variant 2, mRNA [NM 03528651]                  |
| A.23.P33029    | 2.569  | -1.361 | down | SLC22A4         | Home sapiens solute carrier family 22, member 4 (SLC22A4), transcript variant 1, mRNA [NM 003659]                               |
| A.23.P322203   | 2.568  | -1.361 | down | COVYR1          | Home sapiens COVYR1 domain containing 1 (COVYR1), transcript variant 1, mRNA [NM 048892]  |
| A.23.P336815   | 2.568  | -1.361 | down | RHD1M1          | Home sapiens RHD domain containing 1 (RHD1M1), transcript variant 2, mRNA [NM 015361]   |
| A.33.P539539   | -2.566 | -1.359 | down | SHGUB1          | Home sapiens SH3-domain, GRB2-like endophilin B1 (SHGUB1), transcript variant 2, mRNA [NM 001206651]                            |
| A.32.P539539   | 2.565  | -1.359 | down | WEE2-AS1        | Home sapiens WEE2, antinease RNA 1 (WEE2-AS1), long non-coding RNA [NR 015392]  |
| A.24.P2239264  | -2.565 | -1.359 | down | ZFRANB3         | Home sapiens zinc finger, RAN-binding domain containing 3 (ZFRANB3), transcript variant 1, mRNA [NM 032143]                     |
| A.33.P338024   | -2.565 | -1.359 | down | SPARC           | Home sapiens secreted protein, acidic, cysteine-rich (SPARC), mRNA [NM 003118]  |
| A.23.P238157   | -2.564 | -1.358 | down | LYPD8B          | Home sapiens LY6/PLA1R domain containing 4B (LYPD8B), mRNA [NM 177864]  |
| A.23.P300395   | 2.563  | -1.358 | down | UNG             | Home sapiens uracil-DNA glycosylase (UNG), transcript variant 1, mRNA [NM 003382]   |
| A.21.P3900684  | -2.563 | -1.358 | down | APT1D1          | Home sapiens aptamer-inducing TAF-like domain 1 (APT1D1), transcript variant A, mRNA [NM 193294]                                |
| A.21.P3900684  | -2.563 | -1.358 | down | LOG101929288    | Home sapiens uncharacterized LOC101929288 (LOC101929288), long non-coding RNA [NR 105692]                                       |
| A.33.P3417638  | 2.562  | -1.357 | down | ZNF780B         | Home sapiens zinc finger protein 780B (ZNF780B), mRNA [NM 001005851]  |
| A.33.P3417645  | 2.562  | -1.357 | down | TMM13           | Home sapiens translocase of inner mitochondrial membrane 13 homolog, (yeast) (TMM13), mRNA [NM 0172469]                         |
| A.33.P3302900  | -2.561 | -1.356 | down | PAMZ28B         | Home sapiens family with sequence similarity 228, member B (PAMZ28B), transcript variant 1, mRNA [NM 00145710]                  |
| A.32.P43812    | 2.560  | -1.356 | down | DCN1D4          | Home sapiens DCN1, defective in collagen maturation 1, domain containing 4 (DCN1D4), transcript variant 1, mRNA [NM 00160402]   |
| A.23.P335897   | 2.560  | -1.356 | down | POPDC3          | Home sapiens popliteal artery domain containing 3 (POPDC3), transcript variant 1, mRNA [NM 022381]                              |
| A.23.P335897   | 2.560  | -1.356 | down | POPDC3          | Home sapiens popliteal artery domain containing 3 (POPDC3), transcript variant 1, mRNA [NM 022381]                              |
| A.24.P461019   | 2.559  | -1.356 | down | ZNF551          | Home sapiens zinc finger protein 551 (ZNF551), mRNA [NM 021893]   |
| A.23.P3671000  | 2.559  | -1.356 | down | ZNF551          | Home sapiens zinc finger protein 551 (ZNF551), mRNA [NM 021893]   |
| A.21.P3007033  | -2.559 | -1.355 | down | lec-C20orf187-2 | Home sapiens XK, Kell blood group complex subunit-related family, member 4 (XKRB), mRNA [NM 176883]                             |
| A.23.P110473   | -2.558 | -1.354 | down | NAIP            | Home sapiens NLR family, apoptosis inhibitor protein (NAIP), transcript variant 1, mRNA [NM 004538]                             |
| A.21.P0009884  | -2.556 | -1.353 | down | LOC100506548    | Home sapiens uncharacterized LOC100506548 (LOC100506548), long non-coding RNA [NR 037665]                                       |
| A.23.P3382147  | -2.555 | -1.353 | down | STAR1D3         | STAR-related lipid transfer (STAR1) domain containing 13 [Source:HGNC Symbol;Acc:HGNC:19164] [ENS:00000487412]                  |
| A.23.P381154   | -2.555 | -1.353 | down | FDR             | Home sapiens ferredoxin reductase (FDR), transcript variant 2, mRNA [NM 037665]   |
| A.24.P17453    | -2.554 | -1.353 | down | TTG30A          | Home sapiens tetraoctapeptide repeat domain 30A (TTG30A), mRNA [NM 004110]  |
| A.23.P324093   | -2.554 | -1.353 | down | RG52            | Home sapiens regulator of G-protein signaling 5 (RG52), transcript variant 1, mRNA [NM 003617]                                  |
| A.23.P368388   | -2.553 | -1.352 | down | AARS2           | Home sapiens alanyl-tRNA synthetase 2, mitochondrial (AARS2), mRNA [NM 020745]  |
| A.23.P396668   | -2.552 | -1.351 | down | TBGI2B          | Home sapiens TBGI domain family, member 2B (TBGI2B), transcript variant 2, mRNA [NM 015075]                                     |
| A.33.P3720175  | -2.550 | -1.351 | down | LOC375196       | Home sapiens uncharacterized LOC375196 (LOC375196), long non-coding RNA [NR 023386]   |
| A.23.P212495   | 2.549  | -1.350 | down | SHISA3          | Home sapiens shisa family member 3 (SHISA3), transcript variant 1, mRNA [NM 018479]   |
| A.33.P3225987  | -2.549 | -1.350 | down | TRMT2B          | Home sapiens RNA methyltransferase 2 homolog B (S. cerevisiae) (TRMT2B), transcript variant 1, mRNA [NM 024917]                 |
| A.23.P40015679 | 2.548  | -1.349 | down | SYND3           | Syndecan1 [Source:HGNC Symbol;Acc:HGNC:30972] [ENS:00000394243]   |
| A.33.P337058   | 2.547  | -1.348 | down | SYND3           | Home sapiens solute carrier family 38, member 3 (SLC38A3), transcript variant 1, mRNA [NM 03137894]                             |
| A.33.P337058   | 2.547  | -1.348 | down | SYND3           | Home sapiens solute carrier family 38, member 3 (SLC38A3), transcript variant 1, mRNA [NM 03137894]                             |
| A.23.P304418   | 2.547  | -1.348 | down | FCG3A1          | Home sapiens fibronectin type 3 domain containing 3 (FCG3A1), transcript variant 1, mRNA [NM 020119]                            |
| A.33.P326230   | 2.547  | -1.348 | down | lec-KLIM2S-1    | Home sapiens KLIM2-like cohesin-like domain containing 1, long non-coding RNA [NR 011131] [HEC230443]                           |
| A.19.P00696862 | -2.545 | -1.348 | down | lec-FAM108B-1   | Home sapiens FAM108B-like cohesin-like domain containing 1, long non-coding RNA [NR 011131] [HEC230443]                         |
| A.23.P121386   | -2.543 | -1.347 | down | DNAJC19         | Home sapiens DNAJC19 domain, subfamily C, member 19 (DNAJC19), transcript variant 1, mRNA [NM 148281]                           |
| A.21.P001407   | -2.543 | -1.347 | down | UNG1353         | Home sapiens long interspersed, non-autonomous coding RNA 1353 (UNG1353), transcript variant 1, long non-coding RNA [NR 117097] |
| A.22.P00021758 | -2.542 | -1.346 | down | LOC642386       | Home sapiens uncharacterized LOC642386 (LOC642386), long non-coding RNA [NR 048243]   |
| A.33.P3389574  | -2.542 | -1.346 | down | TTL1            | Home sapiens tubulin tyrosine ligase-like family member 1 (TTL1), transcript variant 1, mRNA [NM 012293]                        |
| A.23.P46149    | -2.542 | -1.346 | down | GPH137B         | Home sapiens G-protein-coupled receptor 137B (GPH137B), mRNA [NM 003272]  |
| A.23.P143334   | 2.540  | -1.345 | down | OXADR           | Home sapiens coxsackie virus and adenovirus receptor (OXADR), transcript variant 1, mRNA [NM 001338]                            |
| A.23.P143334   | 2.540  | -1.345 | down | MAGROD2         | MAGRO domain containing 2 [Source:HGNC Symbol;Acc:HGNC:16126] [ENS:00000469259]   |
| A.23.P398662   | -2.540 | -1.345 | down | RAB40C          | Home sapiens RAB40C, member RAS oncogene family (RAB40C), transcript variant 2, mRNA [NM 021188]                                |
| A.23.P309446   | -2.539 | -1.344 | down | RAMP1           | Home sapiens receptor (G protein-coupled) activity modifying protein 1 (RAMP1), mRNA [NM 005695]                                |
| A.33.P305472   | 2.539  | -1.344 | down | SPEN2           | Home sapiens cDNA FLJ1999 fs, clone SPEN2/29883 [AK123989]  |
| A.23.P309597   | -2.538 | -1.343 | down | STON2           | Home sapiens stonin 2 (STON2), transcript variant 1, mRNA [NM 033104]   |
| A.33.P3617291  | -2.535 | -1.342 | down | SNORD12         | EST1089 Synovial sarcoma Home sapiens cDNA 9, end, mRNA sequence [AK37892]  |
| A.23.P292378   | 2.533  | -1.341 | down | CAST1           | Home sapiens castellanin 1, apoptosis-related cysteine peptidase (CAST1), transcript variant, alpha, mRNA [NM 032929]           |
| A.23.P303285   | 2.531  | -1.340 | down | STFH4           | Home sapiens M209 host gene (over-pm coding) (MFC639) (STFH4), transcript variant 1, mRNA [NM 00104648]                         |
| A.21.P462755   | 2.530  | -1.340 | down | CDAD1           | Home sapiens cell division cycle 46, domain containing 1 (CDAD1), transcript variant 1, mRNA [NM 091326]                        |
| A.23.P462755   | 2.530  | -1.340 | down | CDAD1           | Home sapiens cell division cycle 46, domain containing 1 (CDAD1), transcript variant 1, mRNA [NM 091326]                        |
| A.23.P211412   | -2.529 | -1.339 | down | GOL18A1         | Home sapiens coiled-coil, beta XVII, alpha 1 (GOL18A1), transcript variant 1, mRNA [NM 038582]                                  |
| A.23.P348798   | 2.528  | -1.338 | down | SAC3D1          | Home sapiens SAC3 domain containing 1 (SAC3D1), mRNA [NM 013269]  |
| A.24.P147765   | -2.528 | -1.338 | down | FOXRED2         | Home sapiens FOX-dependent oxidoreductase domain containing 2 (FOXRED2), transcript variant 1, mRNA [NM 024955]                 |
| A.33.P368134   | -2.528 | -1.338 | down | PANX2           | Home sapiens pannexin 2 (PANX2), transcript variant 1, mRNA [NM 028283]   |
| A.23.P200030   | -2.528 | -1.338 | down | FPOT            | Home sapiens fucose-1-phosphate guanylyltransferase (FPOT), transcript variant 1, mRNA [NM 003838]                              |
| A.33.P344782   | -2.527 | -1.338 | down | CYP25I1         | cyclochrome P-450, family 2, subfamily S, polypeptide 1 [Source:HGNC Symbol;Acc:HGNC:15644] [ENS:00000383645]                   |
| A.22.P0002047  | -2.524 | -1.336 | down | SLC13A2         | Home sapiens solute carrier family 13, member 2 (SLC13A2), transcript variant 2, mRNA [NM 003984]                               |
| A.23.P107307   | -2.522 | -1.335 | down | NOTCH3          | Home sapiens notch 3 (NOTCH3), mRNA [NM 000435]   |
| A.33.P311055   | -2.521 | -1.334 | down | REMB4           | Home sapiens RNA binding motif protein 4B (REMB4), transcript variant 1, mRNA [NM 031492]                                       |
| A.23.P1638     | -2.520 | -1.333 | down | WDY78           | Home sapiens WD repeat domain 78 (WDY78), transcript variant 2, mRNA [NM 207014]  |
| A.33.P327881   | -2.520 | -1.333 | down | ZNF529          | Home sapiens zinc finger protein 529 (ZNF529), transcript variant 2, mRNA [NM 020951]   |
| A.23.P433676   | -2.519 | -1.333 | down | ZNF529          | Home sapiens zinc finger protein 529 (ZNF529), transcript variant 2, mRNA [NM 020951]   |
| A.33.P3936086  | -2.519 | -1.333 | down | TRCK            | Home sapiens tRNA CysX/R motif containing (TRCK), transcript variant 1, mRNA [NM 00117199]                                      |
| A.33.P17313    | 2.519  | -1.333 | down | MGMD22          | Home sapiens domain containing 22 (MGMD22), transcript variant 2, mRNA [NM 00118160]  |
| A.33.P405372   | 2.518  | -1.332 | down | MGMD22          | Home sapiens domain containing 22 (MGMD22), transcript variant 2, mRNA [NM 00118160]  |
| A.24.P148269   | -2.517 | -1.332 | down | IFNAR1          | Home sapiens interferon (alpha-beta and gamma) receptor 1 (IFNAR1), mRNA [NM 000620]  |
| A.33.P3271988  | -2.517 | -1.332 | down | UNG00094        | Home sapiens long interspersed, non-autonomous coding RNA 94 (UNG00094), long non-coding RNA [NR 015427]                        |
| A.21.P0004085  | -2.517 | -1.331 | down | QBHNS5          | QBHNS5 BRUJA (QBHNS5) MADH1 dehydrogenase subunit 2, partial (5'), long non-coding RNA [NR 015427]                              |
| A.33.P323367   | -2.516 | -1.331 | down | ATXN10          | Home sapiens ataxin 10 (ATXN10), transcript variant 1, mRNA [NM 013236]   |
| A.23.P363936   | -2.516 | -1.331 | down | HSPAAL          | Home sapiens heat shock 70kDa protein 4-like (HSPAAL), mRNA [NM 014278]   |



|                |        |        |       |                |   |
|----------------|--------|--------|-------|----------------|---|
| A.24.P126425   | -1.331 | -2.515 | 2.515 | FAM188B        | Home sapiens family with sequence similarity 188, member B (FAM188B), mRNA [NM 032222]  |
| A.33.P3216237  | -1.330 | -2.514 | 2.514 | BZW2           | Home sapiens basic leucine zipper and W2 domains 2 (BZW2), transcript variant 1, mRNA [NM 001159767]                                      |
| A.24.P398972   | -1.330 | -2.514 | 2.514 | COG7           | Home sapiens coenzyme Q7 homolog, ubiquinone (yeast) (COQ7), transcript variant 1, mRNA [NM 016138]                                       |
| A.24.P398348   | -1.329 | -2.513 | 2.513 | HIP1           | Home sapiens histidine interacting protein 1 (HIP1), transcript variant 1, mRNA [NM 005339]   |
| A.22.P00009722 | -1.328 | -2.511 | 2.511 | MCTP2          | Home sapiens multiple C2 domains, transmembrane 2 (MCTP2), transcript variant 1, mRNA [NM 016346]   |
| A.24.P293964   | -1.328 | -2.511 | 2.511 | SM4A           | Home sapiens glutathione beta pseudogene (SM4A), transcript variant 1, non-coding RNA [NR 029426]   |
| A.33.P396729   | -1.328 | -2.510 | 2.510 | THES2          | Home sapiens thrombospondin 2 (THES2), mRNA [NM 003247]   |
| A.21.P011838   | -1.327 | -2.510 | 2.510 | SLEFN2         | Home sapiens schlafen family member 19 (SLEFN2), transcript variant 1, mRNA [NM 0101842]  |
| A.21.P0115047  | -1.327 | -2.509 | 2.509 | LOC102829485   | Home sapiens uncharacterized LOC102829485 (LOC102829485), long non-coding RNA [NR 040222]   |
| A.23.P397274   | -1.327 | -2.509 | 2.509 | LNK00842       | Home sapiens long interspersed non-protein coding RNA 842 (LNK00842), long non-coding RNA [NR 0333957]                                    |
| A.23.P397130   | -1.327 | -2.509 | 2.509 | SEI10B         | Home sapiens sigma-interferon binding domain containing 10B (SEI10B), long non-coding RNA [NR 0333957]                                    |
| A.21.P011268   | -1.327 | -2.508 | 2.508 | LOC102829486   | Home sapiens uncharacterized LOC102829486 (LOC102829486), long non-coding RNA [NR 040222]   |
| A.19.P0066081  | -1.326 | -2.507 | 2.507 | NUL13          | Home sapiens nucleolar protein 13 (NUL13), transcript variant 1, mRNA [NM 002372]   |
| A.22.P00026243 | -1.325 | -2.506 | 2.506 | lec-SMGB-1     | Home sapiens dead-end box-like nucleolar X-box satellite 3 (Source:HGNC Symbol;Acc:HGNC:8959) [ENS:00000607016]                           |
| A.23.P400078   | -1.325 | -2.506 | 2.506 | MTHFR          | Home sapiens methyltetrahydrofolate reductase (MTHFR), (MTHFR), mRNA [NM 008957]  |
| A.24.P11567    | -1.325 | -2.506 | 2.506 | PEX13          | Home sapiens peroxisomal biogenesis factor 13 (PEX13), mRNA [NM 024181]   |
| A.22.P00004177 | -1.325 | -2.505 | 2.505 | P3H2-AS1       | Home sapiens P3H2 antisense RNA 1 (P3H2-AS1), long non-coding RNA [NR 126419]   |
| A.24.P160874   | -1.325 | -2.505 | 2.505 | DUT            | Home sapiens desoxyuridine triphosphatase (DUT), transcript variant 1, mRNA [NM 001029248]  |
| A.22.P00023586 | -1.324 | -2.503 | 2.503 | HOXA9          | Home sapiens homeobox A9 (HOXA9), mRNA [NM 152739]  |
| A.22.P00009297 | -1.323 | -2.502 | 2.502 | FBXO15         | Home sapiens F-box protein 15 (FBXO15), transcript variant 1, mRNA [NM 152676]  |
| A.23.P342769   | -1.322 | -2.500 | 2.500 | PPP1R8B        | Home sapiens protein phosphatase 1, regulatory subunit 8B (PPP1R8B), mRNA [NM 023595]   |
| A.24.P376589   | -1.322 | -2.500 | 2.500 | URG1           | Home sapiens leucine-rich alpha-2-glycoprotein 1 (URG1), mRNA [NM 059292]   |
| A.23.P00658    | -1.322 | -2.499 | 2.499 | lec-TLKI-1     | UNC95B-like RNA (lec-TLKI-1), lincRNA [lec-TLKI-1]  |
| A.21.P0002520  | -1.322 | -2.499 | 2.499 | TRIM68         | Home sapiens tripartite motif containing 68 (TRIM68), mRNA [NM 041818]  |
| A.33.P3930773  | -1.321 | -2.499 | 2.499 | PAN2ZA         | Home sapiens pancreatic zeta-like domain containing 2A (Source:HGNC Symbol;Acc:HGNC:24252) [ENS:0000293378]                               |
| A.33.P3935972  | -1.321 | -2.499 | 2.499 | MAP3K6         | Home sapiens mitogen-activated protein kinase kinase kinase 6 (MAP3K6), mRNA [NM 009933]  |
| A.23.P397130   | -1.321 | -2.499 | 2.499 | UBA7           | Home sapiens zinc finger, C2H2-type containing 7 (UBA7), transcript variant 1, mRNA [NM 002372]   |
| A.23.P397130   | -1.321 | -2.499 | 2.499 | UBA7           | Home sapiens zinc finger, C2H2-type containing 7 (UBA7), transcript variant 1, mRNA [NM 002372]   |
| A.23.P397130   | -1.321 | -2.499 | 2.499 | UBA7           | Home sapiens zinc finger, C2H2-type containing 7 (UBA7), transcript variant 1, mRNA [NM 002372]   |
| A.23.P397130   | -1.321 | -2.499 | 2.499 | UBA7           | Home sapiens zinc finger, C2H2-type containing 7 (UBA7), transcript variant 1, mRNA [NM 002372]   |
| A.22.P00012740 | -1.321 | -2.498 | 2.498 | lec-BALGAPAI-1 | Home sapiens DNA FLJ4181, lincRNA (lec-BALGAPAI-1), lincRNA [NM 002958]   |
| A.22.P0001847  | -1.321 | -2.497 | 2.497 | THOC7-AS1      | Home sapiens THOC7 antisense RNA 1 (THOC7-AS1), long non-coding RNA [NR 104926]   |
| A.23.P261421   | -1.320 | -2.496 | 2.496 | GDCA7          | Home sapiens cell division cycle associated 7 (GDCA7), transcript variant 1, mRNA [NM 031942]   |
| A.19.P00318219 | -1.320 | -2.496 | 2.496 | GRI114         | GRI114 (GRI114), ZNF80 protein, Fragment, partial (GRI114), transcript variant 1, mRNA [NM 031942]  |
| A.23.P21207    | -1.320 | -2.496 | 2.496 | UBA7           | Home sapiens ubiquitin-like modifier activating enzyme 7 (UBA7), mRNA [NM 003335]   |
| A.24.P166663   | -1.319 | -2.495 | 2.495 | ODK6           | Home sapiens cyclin-dependent kinase 6 (CDK6), transcript variant 1, mRNA [NM 001259]   |
| A.33.P250443   | -1.319 | -2.495 | 2.495 | DUOX2          | Home sapiens dual oxidase maturation factor 2 (DUOX2), mRNA [NM 207561]   |
| A.23.P101823   | -1.319 | -2.495 | 2.495 | ZNF687         | Home sapiens zinc finger protein 687 (ZNF687), transcript variant 1, mRNA [NM 022108]   |
| A.22.P00004983 | -1.319 | -2.494 | 2.494 | LOC390788      | PREDICED: Home sapiens uncharacterized LOC390788 (LOC390788), non-coding RNA [XR 244788]  |
| A.24.P367742   | -1.318 | -2.494 | 2.494 | AFMID          | Home sapiens arylformamidase (AFMID), transcript variant 3, non-coding RNA [NR 027083]  |
| A.33.P343106   | -1.318 | -2.494 | 2.494 | ETV2           | Home sapiens ets variant 2 (ETV2), transcript variant 1, mRNA [NM 014299]   |
| A.21.P011529   | -1.318 | -2.493 | 2.493 | ZNF547         | Home sapiens cDNA FLJ4004, fig. clone STOM24004194 [AK097233]   |
| A.33.P3932822  | -1.317 | -2.492 | 2.492 | IRX6E          | Home sapiens inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase domain (IRX6E), transcript variant 1, mRNA [NM 014092] |
| A.33.P3932822  | -1.317 | -2.491 | 2.491 | IRX6E          | Home sapiens inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase domain (IRX6E), transcript variant 1, mRNA [NM 014092] |
| A.33.P393539   | -1.317 | -2.491 | 2.491 | PCP2           | Home sapiens histone cell factor 2 (PCP2), mRNA [NM 013820]   |
| A.33.P393539   | -1.317 | -2.491 | 2.491 | PCP2           | Home sapiens histone cell factor 2 (PCP2), mRNA [NM 013820]   |
| A.33.P15437    | -1.316 | -2.490 | 2.490 | C62418         | Home sapiens uncharacterized LOC101927204 (LOC101927204), long non-coding RNA [NR 10184]  |
| A.24.P00012654 | -1.315 | -2.489 | 2.489 | LOC101927204   | Home sapiens uncharacterized LOC101927204 (LOC101927204), long non-coding RNA [NR 10184]  |
| A.24.P155004   | -1.315 | -2.488 | 2.488 | UBR7           | Home sapiens ubiquitin protein ligase E3 component n-recognin 7 (ubiquitin-UBR7), transcript variant 2, mRNA [NM 175748]                  |
| A.23.P391306   | -1.315 | -2.488 | 2.488 | WNS1ABP        | Home sapiens influenza virus NS1A binding protein (WNS1ABP), mRNA [NM 006488]   |
| A.21.P0013024  | -1.314 | -2.487 | 2.487 | LOC101929726   | PREDICED: Home sapiens uncharacterized LOC101929726 (LOC101929726), mRNA [XR 242025]  |
| A.24.P185004   | -1.314 | -2.486 | 2.486 | NDRG3          | Home sapiens NDRG family, member 3 (NDRG3), transcript variant 1, mRNA [NM 032013]  |
| A.23.P157115   | -1.313 | -2.485 | 2.485 | BZW2           | Home sapiens basic leucine zipper and W2 domains 2 (BZW2), transcript variant 2, mRNA [NM 014038]   |
| A.24.P23238    | -1.313 | -2.485 | 2.485 | GRAM4          | Home sapiens GRAM domain containing 4 (GRAM4), mRNA [NM 015124]   |
| A.33.P3292107  | -1.313 | -2.484 | 2.484 | MIR205H        | Home sapiens MIR205 host gene (non-protein coding) (MIR205HG), mRNA [NM 00104648]   |
| A.24.P919452   | -1.313 | -2.484 | 2.484 | WDR81          | Home sapiens WD repeat domain 81 (WDR81), mRNA [NM 014149]  |
| A.23.P215132   | -1.313 | -2.484 | 2.484 | EPAS1          | Home sapiens endothelin PAS domain protein 1 (EPAS1), mRNA [NM 001430]  |
| A.23.P210210   | -1.312 | -2.484 | 2.484 | CEP85L         | Home sapiens centrosomal protein 85kDa-like (CEP85L), transcript variant 2, mRNA [NM 206921]  |
| A.24.P985      | -1.312 | -2.483 | 2.483 | PDIA           | Home sapiens dipeptidase, alpha-L- (PDIA), transcript variant 1, mRNA [NM 000203]   |
| A.33.P3932877  | -1.312 | -2.483 | 2.483 | C11orf74       | Home sapiens chromosome 11 open reading frame 74 (C11orf74), transcript variant 1, mRNA [NM 001276222]                                    |
| A.19.P00009992 | -1.312 | -2.483 | 2.483 | LOC102005076   | BROAD Institute lincRNA (LOC102005076), lincRNA [TCNS 2 0008333]  |
| A.21.P011389   | -1.312 | -2.482 | 2.482 | ELN2           | Home sapiens beta family member 2 (ELN2), transcript variant 1, mRNA [NM 014779]  |
| A.21.P011389   | -1.312 | -2.482 | 2.482 | ELN2           | Home sapiens beta family member 2 (ELN2), transcript variant 1, mRNA [NM 014779]  |
| A.23.P341628   | -1.312 | -2.482 | 2.482 | TBL1X          | Home sapiens tetratricopeptide repeat-like Y-linked 1 (TBL1X), transcript variant 1, mRNA [NM 005447]                                     |
| A.33.P324168   | -1.311 | -2.482 | 2.482 | LOC100131584   | Home sapiens uncharacterized LOC100131584 (LOC100131584), long non-coding RNA [NR 034689]   |
| A.19.P00331853 | -1.311 | -2.481 | 2.481 | TBC1D8B        | Home sapiens TBC1 domain family, member 8B (with GRAM domain) (TBC1D8B), transcript variant 1, mRNA [NM 017792]                           |
| A.33.P325867   | -1.310 | -2.479 | 2.479 | SGCE           | Home sapiens serotonergic, essential (SGCE), transcript variant 1, mRNA [NM 001099401]  |
| A.23.P413823   | -1.310 | -2.479 | 2.479 | DMRTA1         | Home sapiens DMRT-like family A1 (DMRTA1), mRNA [NM 022160]   |
| A.33.P3300117  | -1.309 | -2.478 | 2.478 | GNB4           | Home sapiens guanine nucleotide binding protein, (G protein), beta polypeptide 4 (GNB4), mRNA [NM 021629]                                 |
| A.21.P171313   | -1.309 | -2.477 | 2.477 | EHF2           | Home sapiens EHF domain containing 2 (EHF2), mRNA [NM 014400]   |
| A.21.P0014374  | -1.309 | -2.477 | 2.477 | VAMP5          | Home sapiens vesicle-associated membrane protein 5 (VAMP5), mRNA [NM 006834]  |
| A.24.P156113   | -1.308 | -2.476 | 2.476 | TMA7           | Home sapiens translation machinery associated 7 homolog (S. cerevisiae) (Source:HGNC Symbol;Acc:HGNC:26832) [ENS:0000047664]              |
| A.24.P44256    | -1.308 | -2.476 | 2.476 | NFKB1          | Home sapiens nuclear factor of kappa light polypeptide gene enhancer in B-cells 1 (NFKB1), transcript variant 1, mRNA [NM 003998]         |
| A.23.P390024   | -1.308 | -2.476 | 2.476 | SP3B3          | Home sapiens salivary factor 3b, subunit 3, 130kDa (SP3B3), mRNA [NM 012429]  |
| A.22.P0014384  | -1.308 | -2.475 | 2.475 | SSX2IP         | Home sapiens salivary factor 3b, subunit 3, 130kDa (SSX2IP), transcript variant 5, mRNA [NM 014021]                                       |
| A.33.P391376   | -1.307 | -2.475 | 2.475 | IRNREL         | Home sapiens kin of RBE like (crossing) (IRNREL), transcript variant 1, mRNA [NM 018240]  |
| A.33.P321489   | -1.308 | -2.472 | 2.472 | ZNF318         | Home sapiens zinc finger protein 318 (ZNF318), mRNA [NM 024648]   |
| A.24.P20443    | -1.308 | -2.472 | 2.472 | ZNF318         | Home sapiens zinc finger protein 318 (ZNF318), mRNA [NM 024648]   |
| A.22.P00013803 | -1.305 | -2.471 | 2.471 | ZNF593         | Home sapiens zinc finger protein 593 (ZNF593), transcript variant 1, mRNA [NM 039272]   |
| A.33.P3268693  | -1.305 | -2.470 | 2.470 | CZCHC1A        | Home sapiens zinc finger, C2H2-type containing 1A (CZCHC1A), mRNA [NM 018010]   |
| A.22.P00009745 | -1.304 | -2.470 | 2.470 | TRAF3IP2-AS1   | Home sapiens TRAF3IP2 antisense RNA 1 (TRAF3IP2-AS1), transcript variant 1, long non-coding RNA [NR 034108]                               |
| A.23.P337229   | -1.304 | -2.468 | 2.468 | LOC100270804   | Home sapiens uncharacterized LOC100270804 (LOC100270804), long non-coding RNA [NR 026885]   |
| A.33.P3404052  | -1.303 | -2.468 | 2.468 | TNFAIP8        | Home sapiens tumor necrosis factor, alpha-induced protein 8 (TNFAIP8), transcript variant 3, mRNA [NM 001286813]                          |

Transcript variant 1, mRNA [NM 020210]

|                |       |        |      |                 |  |
|----------------|-------|--------|------|-----------------|--|
| A.32.P132396   | 2.467 | -1.303 | down | FAM86BP         | Home sapiens family with sequence similarity 86, member J, pseudogene (FAM86BP), transcript variant 1, non-coding RNA [NR 024251]              |
| A.23.P24535    | 2.468 | -1.302 | down | TTG12           | Home sapiens tetratricopeptide repeat domain 12 (TTG12), mRNA [NM 017888]  |
| A.24.P481275   | 2.468 | -1.302 | down | LOC100131564    | Home sapiens uncharacterized LOC100131564 (LOC100131564), long non-coding RNA [NR 034889]  |
| A.23.P117183   | 2.465 | -1.301 | down | RCHY1           | Home sapiens regulator of chromosome condensation (RCC) and BTB (POZ) domain containing protein 1 (RCHY1), mRNA [NM 018191]                    |
| A.33.P330822   | 2.465 | -1.301 | down | FAM224A         | Home sapiens family with sequence similarity 224, member A, (non-protein coding) (FAM224A), long non-coding RNA [NR 002161]                    |
| A.33.P3214442  | 2.465 | -1.301 | down | GOL11A2         | Home sapiens collagen, type XI, alpha 2 (COL11A2), transcript variant 1, mRNA [NM 006080]  |
| A.19.P0325070  | 2.465 | -1.301 | down | linc-UBI1CP1-4  | lincUBI1CP1-4, lincRNA [linc-UBI1CP1-4]  |
| A.23.P125220   | 2.464 | -1.301 | down | SLC25A28        | Home sapiens solute carrier family 25 (mitochondrial iron transporter), member 28 (SLC25A28), mRNA [NM 031212]                                 |
| A.21.P1011272  | 2.464 | -1.301 | down | SNHG12          | PREDICTED: Home sapiens uncharacterized LOC100963932 (LOC100963932), misc RNA [XR 009809]  |
| A.33.P3326225  | 2.463 | -1.301 | down | SNHG12          | Home sapiens alpha motif domain containing 12 (SNHG12), transcript variant 1, mRNA [NM 001011910]  |
| A.33.P3326225  | 2.463 | -1.301 | down | SNHG12          | Home sapiens alpha motif domain containing 12 (SNHG12), transcript variant 2, long non-coding RNA [NR 026862]                                  |
| A.23.P145363   | 2.462 | -1.300 | down | ANCC            | Home sapiens nucleolar centromere associated protein 1 (ANCC), mRNA [NM 004159]  |
| A.23.P1000464  | 2.461 | -1.299 | down | SNHG11B-20      | Home sapiens nucleolar centromere associated protein 1 (ANCC), mRNA [NR 003386]  |
| A.21.P0001925  | 2.461 | -1.299 | down | NTECB1          | Home sapiens nucleolar centromere associated protein 1 (ANCC), mRNA [NM 032324]  |
| A.23.P2368887  | 2.461 | -1.299 | down | ALDH1L1         | Home sapiens aldehyde dehydrogenase 1, family member 1L (ALDH1L1), transcript variant 2, mRNA [NM 012100]                                      |
| A.33.P3344579  | 2.461 | -1.299 | down | DLD             | Home sapiens dihydropyrimidinase (DLD), transcript variant 1, mRNA [NM 000108]   |
| A.33.P3344579  | 2.461 | -1.299 | down | DLD             | Home sapiens outer dense fiber of sperm tails 2, like (ODF2L), transcript variant 3, mRNA [NM 00184765]  |
| A.24.P261005   | 2.460 | -1.299 | down | SMIM19          | Home sapiens small integral membrane protein 19 (SMIM19), transcript variant 3, mRNA [NM 138438]   |
| A.32.P188464   | 2.460 | -1.298 | down | CASK            | Home sapiens calcium/calmodulin-dependent serine protein kinase (MAGLK family) (CASK), transcript variant 1, mRNA [NM 002688]                  |
| A.32.P172341   | 2.459 | -1.298 | down | TRIM59          | Home sapiens tripartite motif containing 59 (TRIM59), mRNA [NM 173984]   |
| A.22.P00010871 | 2.459 | -1.298 | down | TBCK            | Home sapiens TBCK1 domain containing kinase (TBCK), transcript variant 4, mRNA [NM 033115]   |
| A.23.P133075   | 2.459 | -1.298 | down | SNHG16          | Home sapiens small nuclear RNA host gene 16 (non-protein coding) (SNHG16), transcript variant 1, long non-coding RNA [NR 031108]               |
| A.21.P0000714  | 2.459 | -1.298 | down | TT29-AS1        | Home sapiens TT29 antisense RNA 1 (TT29-AS1), transcript variant 2, long non-coding RNA [NR 026862]  |
| A.33.P3367143  | 2.459 | -1.298 | down | ZNF486          | Home sapiens zinc finger protein 486 (ZNF486), mRNA [NM 148312]  |
| A.23.P1131861  | 2.459 | -1.298 | down | COA5            | Home sapiens cytochrome c oxidase assembly factor 3 (COA5), mRNA [NM 00108215]   |
| A.23.P339110   | 2.458 | -1.298 | down | LOC100969       | Home sapiens long intergenic non-protein coding RNA 399 (LINC00969), long non-coding RNA [NR 034125]   |
| A.21.P0010889  | 2.458 | -1.298 | down | LOC100969       | Home sapiens demethylase 1 (LOC100969), transcript variant 1, mRNA [NM 0010889]  |
| A.23.P145363   | 2.458 | -1.297 | down | LOC100969       | Home sapiens demethylase 1 (LOC100969), transcript variant 2, long non-coding RNA [NR 034125]  |
| A.33.P3261610  | 2.458 | -1.297 | down | FOXP3L          | Home sapiens forkhead box P3, like (FOXP3L), mRNA [NM 008487]  |
| A.33.P143981   | 2.458 | -1.297 | down | FLN2            | Home sapiens fibronectin 2 (FLN2), transcript variant 1, mRNA [NM 001094018]   |
| A.33.P3243929  | 2.457 | -1.297 | down | FL42022         | Home sapiens cDNA FL42022, fic, clone, SRAEN2644078, AK124016  |
| A.33.P3261610  | 2.457 | -1.297 | down | KB1B06          | Home sapiens ketch repeat and BTB (POZ) domain containing 6 (KB1B06), mRNA [NM 192903]   |
| A.32.P4117974  | 2.456 | -1.296 | down | ACPI1           | Home sapiens aquaporin 1 (ACPI1), mRNA [NM 173939]   |
| A.32.P189735   | 2.455 | -1.296 | down | TT08            | Home sapiens tetratricopeptide repeat domain 8 (TT08), transcript variant 1, mRNA [NM 144996]  |
| A.24.P291186   | 2.455 | -1.296 | down | WDR88           | Home sapiens WD repeat domain 88 (WDR88), transcript variant 1, mRNA [NM 00108720]   |
| A.32.P235159   | 2.454 | -1.295 | down | MSL3P1          | Home sapiens male-specific lethal 3 homologue (Drosophila) pseudogene 1 (MSL3P1), non-coding RNA [NR 024322]                                   |
| A.21.P0010326  | 2.453 | -1.295 | down | LOC101928881    | Home sapiens uncharacterized LOC101928881 (LOC101928881), long non-coding RNA [NR 110637]  |
| A.33.P322720   | 2.452 | -1.294 | down | ZNF197          | Home sapiens zinc finger protein 197 (ZNF197), transcript variant 2, mRNA [NM 001024855]   |
| A.33.P259090   | 2.452 | -1.294 | down | NUDT12          | Home sapiens nucleoside diphosphate linked moiety X-type motif 12 (NUDT12), transcript variant 1, mRNA [NM 031439]                             |
| A.33.P3233871  | 2.452 | -1.294 | down | P12             | Home sapiens cyclin dependent cell cycle regulator 7 (P12), mRNA [NM 000505]   |
| A.33.P3668877  | 2.452 | -1.294 | down | G00675          | Home sapiens chromosome 10 open reading frame 35 (G00675), mRNA [NM 00100739]  |
| A.24.P193177   | 2.451 | -1.293 | down | G00675          | Home sapiens color-coat domain containing 44A (G00675), transcript variant 1, mRNA [NM 014695]   |
| A.33.P301288   | 2.451 | -1.293 | down | linc-EGLN1-1    | lincEGLN1-1, lincRNA [linc-EGLN1-1]  |
| A.33.P301288   | 2.451 | -1.293 | down | linc-EGLN1-1    | lincEGLN1-1, lincRNA [linc-EGLN1-1]  |
| A.33.P321806   | 2.450 | -1.293 | down | G01647          | Home sapiens family with sequence similarity 101, member A (G01647), transcript variant 2, mRNA [NM 032188]                                    |
| A.33.P207853   | 2.449 | -1.292 | down | TMR25A          | Home sapiens transmembrane protein 25A (TMR25A), transcript variant 1, mRNA [NM 153741]  |
| A.24.P181312   | 2.448 | -1.292 | down | SLC14A          | Home sapiens solute carrier family 14, transmembrane, neutral amino acid transporter member 4 (SLC14A), transcript variant 1, mRNA [NM 003038] |
| A.21.P0008383  | 2.447 | -1.291 | down | TROBP           | NFKB activating protein pseudogene 1 (Source:HGNC Symbol;Acc:NC_006106) [ENS100006593.68]  |
| A.33.P327553   | 2.446 | -1.291 | down | TROBP           | Home sapiens TRO and F-actin binding protein (TROBP), transcript variant 2, mRNA [NM 00103941]   |
| A.19.P00330814 | 2.446 | -1.291 | down | HOTAIR          | Home sapiens HOX transcript antisense RNA (HOTAIR), transcript variant 3, long non-coding RNA [NR 047518]                                      |
| A.23.P346882   | 2.446 | -1.290 | down | DTWD2           | Home sapiens DTW domain containing 2 (DTWD2), mRNA [NM 173986]   |
| A.21.P0001350  | 2.445 | -1.290 | down | LOC100131564    | Home sapiens uncharacterized LOC100131564 (LOC100131564), long non-coding RNA [NR 047518]  |
| A.23.P122331   | 2.444 | -1.289 | down | G0648           | Home sapiens chromosome 6 open reading frame 48 (G0648), transcript variant 1, mRNA [NM 001040437]   |
| A.23.P109488   | 2.444 | -1.289 | down | PKP3P1          | Home sapiens phosphoinositide-3-kinase interacting protein 1 (PKP3P1), transcript variant 1, mRNA [NM 092880]                                  |
| A.33.P341143   | 2.444 | -1.289 | down | RASSF10         | Home sapiens RAS association (RASSF) domain family (N-terminal member 10) (RASSF10), mRNA [NM 001080521]                                       |
| A.23.P217379   | 2.444 | -1.289 | down | GOL46           | Home sapiens collagen, type IV, alpha 6 (COL4A6), transcript variant B, mRNA [NM 001039641]  |
| A.33.P3069210  | 2.443 | -1.289 | down | MIR31HG         | Home sapiens MIR31 host gene (non-protein coding) (MIR31HG), long non-coding RNA [NF 027054]   |
| A.33.P322592   | 2.442 | -1.288 | down | OAS2            | Home sapiens 2'-5'-oligoadenylate synthetase 2, B9/714Db (OAS2), transcript variant 3, mRNA [NM 001032731]                                     |
| A.33.P322592   | 2.441 | -1.288 | down | ARGAP26         | Home sapiens Rho GTPase activating protein 26 (ARGAP26), transcript variant 1, mRNA [NM 001032731]   |
| A.33.P322592   | 2.440 | -1.287 | down | RGS12           | Home sapiens regulator of G-protein signaling 12 (RGS12), transcript variant 2, mRNA [NM 001032731]  |
| A.33.P322592   | 2.440 | -1.287 | down | RGS12           | Home sapiens regulator of G-protein signaling 12 (RGS12), transcript variant 3, mRNA [NM 001032731]  |
| A.23.P201665   | 2.440 | -1.287 | down | LOC100969       | Home sapiens demethylase 1 (LOC100969), transcript variant 1, mRNA [NM 0010889]  |
| A.23.P0002949  | 2.440 | -1.287 | down | linc-C16orf45-1 | lincC16orf45-1, lincRNA [linc-C16orf45-1]  |
| A.23.P38394    | 2.439 | -1.287 | down | TLE4            | Home sapiens transducin-like enhancer of split 4 (TLE4), transcript variant 3, mRNA [NM 0010059]   |
| A.23.P207350   | 2.438 | -1.286 | down | SNORD95         | Home sapiens small nuclear RNA, C/D box 95 (SNORD95), small nuclear RNA [NR 002391]  |
| A.21.P0000274  | 2.438 | -1.286 | down | ZNF587B         | Home sapiens zinc finger protein 587B (ZNF587B), mRNA [NM 001204818]   |
| A.21.P0000157  | 2.437 | -1.285 | down | POPD02          | Home sapiens poppy domain containing 2 (POPD02), mRNA [NM 022138]  |
| A.22.P257336   | 2.437 | -1.285 | down | NUTM2B          | Home sapiens NUT family member 2B (NUTM2B), mRNA [NM 001278495]  |
| A.22.P399227   | 2.438 | -1.284 | down | linc-CAK1G-1    | lincCAK1G-1, lincRNA [linc-CAK1G-1]  |
| A.23.P259113   | 2.435 | -1.284 | down | DNM1            | Home sapiens dynein, axonemal, light chain 1 (DNM1), transcript variant 1, mRNA [NM 0314427]   |
| A.33.P3279431  | 2.434 | -1.283 | down | GOSR1           | Home sapiens golgi SNAP receptor complex member 1 (GOSR1), transcript variant 3, mRNA [NM 001007024]   |
| A.23.P134113   | 2.433 | -1.283 | down | SLOC3A1         | Home sapiens solute carrier family 18, subfamily B, member 3A1 (SLOC3A1), mRNA [NM 052831]   |
| A.24.P388897   | 2.433 | -1.283 | down | RGS17           | Home sapiens regulator of G-protein signaling 17 (RGS17), mRNA [NM 012419]   |
| A.23.P156881   | 2.433 | -1.283 | down | RGS17           | Home sapiens regulator of G-protein signaling 17 (RGS17), mRNA [NM 012419]   |
| A.24.P259256   | 2.433 | -1.283 | down | PHF42B          | Home sapiens phosphatidylinositol-5-phosphate 4-kinase, type II, beta (PHF42B), mRNA [NM 003569]   |
| A.22.P259256   | 2.433 | -1.283 | down | linc-MTLC2-21   | lincMTLC2-21, lincRNA [linc-MTLC2-21]  |
| A.22.P259256   | 2.433 | -1.283 | down | linc-MTLC2-21   | lincMTLC2-21, lincRNA [linc-MTLC2-21]  |
| A.23.P105138   | 2.432 | -1.282 | down | CAT4            | Home sapiens cationic amino transporter family, member 4 (CAT4), mRNA [NM 0017432]   |
| A.33.P3294440  | 2.432 | -1.282 | down | DCAF6           | Home sapiens DCAF6, CUL4-associated factor 6 (DCAF6), transcript variant 2, mRNA [NM 001079271]  |
| A.19.P00316427 | 2.431 | -1.282 | down | DNM2B-AS1       | Home sapiens DNM2B antisense RNA 1 (DNM2B-AS1), transcript variant 13, long non-coding RNA [NR 047533]   |
| A.23.P314712   | 2.430 | -1.281 | down | CABYR           | Home sapiens calcium binding, cytoskeleton-VY-ubiquitinoligoligand (CABYR), transcript variant 1, mRNA [NM 012188]                             |
| A.22.P0013829  | 2.429 | -1.280 | down | LOC101928403    | PREDICTED: Home sapiens uncharacterized LOC101928403 (LOC101928403), mRNA [XR 245043]  |
| A.22.P0015029  | 2.428 | -1.280 | down | HOXC-AS1        | Home sapiens HOXC cluster antisense RNA 1 (HOXC-AS1), long non-coding RNA [NR 047504]  |
| A.24.P184419   | 2.428 | -1.280 | down | VAW2            | Home sapiens vav 2 guanine nucleotide exchange factor (VAW2), transcript variant 2, mRNA [NM 003371]   |

|                |        |       |               |   |
|----------------|--------|-------|---------------|---|
| A.21.P0011035  | 2-427  | 2-427 | LOC101928054  | PREDICTED: Homo sapiens uncharacterized LOC101928054 (LOC101928054). mRNA [XR 242910]   |
| A.23.P38865    | -2-427 | 2-427 | SEP290        | Homo sapiens centromere protein 290kDa (CEP290). mRNA [NM 025114]   |
| A.33.P340425   | -2-426 | 2-428 | ASGR1         | asialoglycoprotein receptor 1 [Source:HGNC Symbol;Acc:HGNC:7492] [ENS:00000573986]  |
| A.33.P3434001  | -2-426 | 2-428 |               |   |
| A.33.P3456678  | -2-425 | 2-425 | NR6A1         | Homo sapiens nuclear receptor subfamily 6 group A, member 1 (NR6A1). transcript variant 1. mRNA [NM 033334]   |
| A.23.P70968    | -2-425 | 2-424 | HOXA7         | Homo sapiens homeobox A7 (HOXA7). mRNA [NM 008896]  |
| A.33.P368646   | -2-425 | 2-424 | CHN3R         | Homo sapiens CHN3R family member 3 (CHN3R). mRNA [NM 178515]  |
| A.21.P0012875  | -2-423 | 2-423 | BROAD         | BROAD Institute lincRNA.XLOC12011885. lincRNA [TCONS:2.0022884]   |
| A.33.P3371259  | -2-423 | 2-423 | HOXA4         | Homo sapiens homeobox A4 (HOXA4). mRNA [NM 002411]  |
| A.23.P1002829  | -2-423 | 2-423 | RNMT2         | Homo sapiens protein L-lysine methyltransferase domain containing 2 (RNMT2). transcript variant 1. mRNA [NM 018257]                                       |
| A.33.P3371260  | -2-423 | 2-423 | HOXA5         | HOXA5   |
| A.21.P001433   | -2-422 | 2-422 | SCY2          | long intergenic non-protein coding RNA 1503 (SCY2). long non-coding RNA [ENS:000042709]   |
| A.21.P0045438  | -2-422 | 2-422 | SCY3          | long intergenic non-protein coding RNA 1504 (SCY3). long non-coding RNA [ENS:000042709]   |
| A.23.P24566    | -2-421 | 2-421 | UGDHA-AS1     | Homo sapiens UGDH family domain 1 (UGDHA-AS1). long non-coding RNA [NR 043679]  |
| A.23.P24566    | -2-421 | 2-421 | UGDHA         | Homo sapiens 1-uridylyltransferase-1-carboxylate synthase homolog (Aabab56)(over functional) (UGDHA). transcript variant 1. mRNA [NM 032582]              |
| A.23.P142447   | -2-419 | 2-419 | MYO1F         | Homo sapiens myosin 1F (MYO1F). mRNA [NM 012433]  |
| A.23.P71821    | -2-419 | 2-419 | PRX3          | Homo sapiens zinc-B-cell leukemia homeobox 3 (PRX3). transcript variant 1. mRNA [NM 006195]   |
| A.21.P0010695  | -2-419 | 2-419 | ANKRD13B      | Homo sapiens long intergenic non-protein coding RNA 339 (ANKRD13B). transcript variant 3. long non-coding RNA [NR 100762]                                 |
| A.23.P380881   | -2-418 | 2-418 | ANKRD13B      | Homo sapiens ankyrin repeat domain 13B (ANKRD13B). mRNA [NM 152345]   |
| A.23.P138297   | -2-417 | 2-417 | TRIM44        | Homo sapiens tripartite motif containing 44 (TRIM44). mRNA [NM 017583]  |
| A.33.P3402763  | -2-417 | 2-417 | NIKF          | Homo sapiens nuclear protein interacting with the FHA domain of Mki67 (NIKF). mRNA [NM 032890]  |
| A.21.P0008329  | -2-416 | 2-416 | linc-COPZP-1  | lincRNA [LINC00229-1]   |
| A.23.P338652   | -2-416 | 2-416 | S100BP8       | Homo sapiens S100 binding protein 8 (S100BP8). transcript variant 1. mRNA [NM 022735]   |
| A.21.P0014665  | -2-416 | 2-416 | LOC102723630  | PREDICTED: Homo sapiens uncharacterized LOC102723630 (LOC102723630). transcript variant X2. ncRNA [XR 429068]   |
| A.32.P101133   | -2-415 | 2-415 | linc-THNS1L-2 | Homo sapiens cDNA FL143227.1 clone IMAGE1001337 [AK022945]  |
| A.33.P323590   | -2-415 | 2-415 | KIAA1217      | Homo sapiens KIAA1217 (KIAA1217). transcript variant 8. mRNA [NM 001282789]   |
| A.23.P51719    | -2-415 | 2-415 | GG1G1         | Homo sapiens gamma-tubulin/transactinase light chain 1 (GG1G1). transcript variant A. mRNA [NM 178311]  |
| A.21.P0002639  | -2-415 | 2-415 | SNRPB4B       | Homo sapiens small nuclear ribonucleoprotein B4B (SNRPB4B). small nuclear RNA [NR 000009]   |
| A.23.P101132   | -2-415 | 2-415 | SNRPB         | Homo sapiens small nuclear ribonucleoprotein B (SNRPB). mRNA [NM 001967]  |
| A.32.P101132   | -2-415 | 2-415 | SNRPB         | Homo sapiens small nuclear ribonucleoprotein B (SNRPB). mRNA [NM 001967]  |
| A.33.P324195   | -2-412 | 2-412 | IGSF48        | Homo sapiens immunoglobulin superfamily member 48 (IGSF48). mRNA [NM 003018]  |
| A.32.P174893   | -2-411 | 2-411 | G1orf234      | Homo sapiens chromosome 1 centromere region 234 (G1orf234). mRNA [NM 01242821]  |
| A.24.P326228   | -2-411 | 2-411 | GRHL2         | Homo sapiens granzyme 2 (Granzyme 2) (GRHL2). mRNA [NM 024915]  |
| A.23.P320242   | -2-410 | 2-410 | KIAA1324L     | Homo sapiens KIAA1324-like (KIAA1324L). transcript variant 2. mRNA [NM 132748]  |
| A.32.P305067   | -2-410 | 2-410 | AK4           | Homo sapiens adenylyl kinase 4 (AK4). transcript variant 1. mRNA [NM 005935]  |
| A.23.P118683   | -2-409 | 2-409 | FOXN1         | Homo sapiens forkhead box N1 (FOXN1). mRNA [NM 003959]  |
| A.22.P00012698 | -2-407 | 2-407 | linc-RAB1A-1  | Homo sapiens lincRNA.linc-RAB1A-1 (FOXA1). lincRNA [linc-RAB1A-1-3]   |
| A.21.P0012839  | -2-407 | 2-407 | XLOC12011892  | BROAD Institute lincRNA.XLOC12011892. lincRNA [TCONS:2.0022450]   |
| A.24.P181417   | -2-406 | 2-406 | NAB1          | Homo sapiens NF-YA binding protein 1 (NFY1) binding protein 1 (NAB1). mRNA [NM 005946]  |
| A.24.P40315    | -2-406 | 2-406 | DZANK1        | Homo sapiens double zinc ribbon and ankyrin repeat domains 1 (DZANK1). mRNA [NM 009467]   |
| A.24.P395607   | -2-406 | 2-406 | EFNB1         | Homo sapiens ephrin-B1 (EFNB1). mRNA [NM 004429]  |
| A.33.P394213   | -2-405 | 2-405 | GRIN3B        | Homo sapiens glutamate receptor, ionotropic, N-methyl-D-aspartate 3B (GRIN3B). mRNA [NM 138690]   |
| A.33.P336108   | -2-404 | 2-404 | SSH2          | Homo sapiens shligin protein phosphatase 2 (SSH2). transcript variant 1. mRNA [NM 001282129]  |
| A.32.P230825   | -2-404 | 2-404 | AK4           | Homo sapiens adenylyl kinase 4 (AK4). transcript variant 1. mRNA [NM 001005355]   |
| A.32.P103855   | -2-404 | 2-404 | AK4           | AK4   |
| A.32.P103855   | -2-404 | 2-404 | AK4           | AK4   |
| A.32.P321380   | -2-404 | 2-404 | ZNF615        | Homo sapiens zinc finger protein 615 (ZNF615). transcript variant 1. mRNA [NM 001189224]  |
| A.22.P00057616 | -2-403 | 2-403 | PIK4A5        | Homo sapiens pleckstrin homology domain containing family A member 5 (PIK4A5). transcript variant 4. mRNA [NM 001190860]                                  |
| A.33.P3232772  | -2-402 | 2-402 | SRSF8         | Homo sapiens serine/arginine-rich splicing factor 8 (SRSF8). transcript variant 1. mRNA [NM 032102]   |
| A.32.P3210343  | -2-401 | 2-401 | ETV6          | Homo sapiens ets variant 6 (ETV6). mRNA [NM 0011987]  |
| A.21.P0011780  | -2-399 | 2-399 | UNC01634      | Homo sapiens long intergenic non-protein coding RNA 1534 (LINC01534). transcript variant 2. long non-coding RNA [NR 110708]                               |
| A.33.P3365616  | -2-395 | 2-395 | BT3L4         | Homo sapiens basic transcription factor 3-like 4 (BT3L4). transcript variant 1. mRNA [NM 132745]  |
| A.21.P0014014  | -2-394 | 2-394 | PRKDC         | Homo sapiens protein kinase D3 (PRKDC). mRNA [NM 009813]  |
| A.32.P12085    | -2-394 | 2-394 | ALOX1HP1      | Homo sapiens arachidonate 15-lipoxygenase pseudogene 1 (ALOX1HP1). non-coding RNA [NR 046985]   |
| A.21.P0007430  | -2-393 | 2-393 | LYSMD2        | Homo sapiens LysM putative methylglyoxal-binding domain containing 2 (LYSMD2). transcript variant 1. mRNA [NM 153374]                                     |
| A.23.P5441     | -2-392 | 2-392 | ABCB8         | Homo sapiens cDNA clone IMAGE418288. partial cdf. [E013074]   |
| A.33.P3421268  | -2-392 | 2-392 | SCHP1         | Homo sapiens ATP-binding cassette, sub-family B (MDR/TAP), member 8 (Langerin blood group) (ABCB8). mRNA [NM 005689]                                      |
| A.24.P725248   | -2-392 | 2-392 | SCHP1         | Homo sapiens serine carboxypeptidase 1 (SCHP1). mRNA [NM 021626]  |
| A.24.P725248   | -2-391 | 2-391 | RS1D1         | Homo sapiens ribosomal L1 domain containing 1 (RS1D1). mRNA [NM 0116563]  |
| A.21.P121106   | -2-391 | 2-391 | TRAF2         | Homo sapiens ubiquitin-protein ligase domain containing 2 (TRAF2). long non-coding RNA [NS 046243]  |
| A.21.P163897   | -2-391 | 2-391 | NID2          | Homo sapiens nidogen 2 (NID2). mRNA [NM 007261]   |
| A.23.P210462   | -2-389 | 2-389 | ALX4          | Homo sapiens adenosine deaminase (ADA) (ALX4). mRNA [NM 000922]   |
| A.23.P210462   | -2-389 | 2-389 | NCK1          | Homo sapiens NCK adaptor protein (NCK1). transcript variant 1. mRNA [NM 006133]   |
| A.23.P21106    | -2-388 | 2-388 | SEI1D4        | Homo sapiens SEI domain containing 4 (SEI1D4). transcript variant 1. mRNA [NM 017438]   |
| A.22.P00023513 | -2-388 | 2-388 | linc-TCIRG1-1 | PREDICTED: Homo sapiens T-cell immune regulator 1 (AIPase, H-r. transposase, lysosomal V0 subunit A3 (TCIRG1). transcript variant X3. mRNA [XM 006718417] |
| A.33.P248489   | -2-388 | 2-388 | WRDR8         | Homo sapiens WR domain 89 (WRDR8). transcript variant 3. mRNA [NM 001259272]  |
| A.33.P3238171  | -2-388 | 2-387 | ZDHHC8        | Homo sapiens zinc finger, DHHC-type containing 8 (ZDHHC8). transcript variant 2. mRNA [NM 013373]   |
| A.33.P3203721  | -2-386 | 2-387 | NINL          | Homo sapiens nine-like (NINL). mRNA [NM 025176]   |
| A.23.P18712    | -2-386 | 2-386 | GMNN          | Homo sapiens geminin, DNA replication inhibitor (GMNN). transcript variant 1. mRNA [NM 018895]  |
| A.33.P368500   | -2-386 | 2-386 | IFTF2         | interfacial transferase 2 (IFTF2). transcript variant 1. mRNA [NM 000471199]  |
| A.23.P70251    | -2-386 | 2-386 | ALDH7A1       | Homo sapiens aldehyde dehydrogenase 7 family, member A1 (ALDH7A1). transcript variant 1. mRNA [NM 001182]   |
| A.23.P102233   | -2-385 | 2-385 | linc-MTPAP-1  | Homo sapiens cDNA FL143227.1 clone IMAGE1001337 [AK022945]  |
| A.23.P3369359  | -2-384 | 2-384 | ZNF337        | Homo sapiens zinc finger protein 337 (ZNF337). transcript variant 1. mRNA [NM 001280201]  |
| A.33.P3333863  | -2-384 | 2-384 | ZNF337        | Homo sapiens zinc finger protein 337 (ZNF337). transcript variant 1. mRNA [NM 001280201]  |
| A.32.P21371    | -2-384 | 2-384 | linc-LEG1-1   | lincRNA [LINC01313-1]   |
| A.32.P21371    | -2-384 | 2-384 | ZNF337-AS1    | Homo sapiens zinc finger protein 337 antisense 1 (ZNF337-AS1). transcript variant 1. long non-coding RNA [NR 126465]                                      |
| A.22.P0003070  | -2-383 | 2-383 | SPPL3         | Homo sapiens signal peptidase like 3 (SPPL3). transcript variant 1. mRNA [NM 180015]  |
| A.23.P427222   | -2-382 | 2-382 | MIL11         | Homo sapiens multi-LIM1 (MIL11). transcript variant 1. mRNA [NM 000246]   |
| A.23.P80058    | -2-382 | 2-382 | HOXB3-AS      | Homo sapiens HOXB3 antisense RNA (HOXB3-AS). long non-coding RNA [NR 047507]  |
| A.22.P00019478 | -2-382 | 2-382 | TTG39C        | Homo sapiens tetraoctadecanoid repeat domain 39C (TTG39C). transcript variant 3. mRNA [NM 001243423]  |
| A.23.P308305   | -2-382 | 2-382 | MRC2          | Homo sapiens mannose receptor, C type 2 (MRC2). mRNA [NM 000309]  |
| A.33.P3364741  | -2-381 | 2-381 |               |   |

|                |      |        |        |       |  |   |
|----------------|------|--------|--------|-------|--|---|
| A.33.P3924539  |      | -2.380 | -1.251 | 2.380 | JRKL   | Home sapiens JIRK-like JIRKL, transcript variant 1, mRNA [NM.003772]  |
| A.33.P3284883  |      | -2.379 | -1.251 | 2.379 | MOB3B  | Home sapiens MOB kinase activator 3B (MOB3B), mRNA [NM.024781]  |
| A.21.P0012185  | down | -2.379 | -1.250 | 2.379 |  |   |
| A.23.P545616   | down | -2.378 | -1.250 | 2.378 | MKL2   | Home sapiens MKL/myocardin-like 2 (MKL2), mRNA [NM.014048]  |
| A.23.P109881   | down | -2.378 | -1.250 | 2.378 | ITH4   | Home sapiens inter-alpha-lysin inhibitor heavy chain family member 4 (ITH4), transcript variant 1, mRNA [NM.002218]                 |
| A.23.P146077   | down | -2.378 | -1.250 | 2.378 | ZNF396   | Home sapiens zinc finger protein 395 (ZNF395), mRNA [NM.018660]   |
| A.33.P3247988  | down | -2.375 | -1.248 | 2.375 | PKSR4  | Home sapiens progesterone convertase subunit/kevin type 4 (PKSR4), mRNA [NM.017973]   |
| A.33.P3243182  | down | -2.373 | -1.247 | 2.373 | ROCA1  | Home sapiens ROCA motif containing with AAA domain 1 (ROCA1), transcript variant 1, mRNA [NM.024728]                                |
| A.33.P3327588  | down | -2.372 | -1.246 | 2.372 | SORCS2   | Home sapiens sortilin-related VPS30 domain containing receptor 2 (SORCS2), transcript variant 1, mRNA [NM.020777]                   |
| A.33.P3327593  | down | -2.372 | -1.246 | 2.372 | PANCL  | Home sapiens Pancreatic adenoma, complementation group 1 (PANCL), transcript variant 1, mRNA [NM.00114638]                          |
| A.33.P3264657  | down | -2.371 | -1.245 | 2.371 | SLC8A2   | Home sapiens solute carrier family 8 (sodium/potassium-transporting), member 2 (SLC8A2), transcript variant 2, mRNA [NM.001172891]  |
| A.22.P0003616  | down | -2.370 | -1.244 | 2.370 | NOTCH1   | Home sapiens notch 1 (NOTCH1), mRNA [NM.017617]   |
| A.23.P40000316 | down | -2.369 | -1.244 | 2.369 | LOC100860786   | Home sapiens uncharacterized LOC100870205 (LOC100807265), long non-coding RNA [NR.038509]   |
| A.23.P124427   | down | -2.367 | -1.243 | 2.367 | NEK1   | Home sapiens NIMA-related kinase 1 (NEK1), transcript variant 2, mRNA [NM.012224]   |
| A.23.P124427   | down | -2.367 | -1.243 | 2.367 | USP27X-AS1   | Home sapiens USP27X antisense RNA 1 (read to head) (USP27X-AS1), long non-coding RNA [NR.028742]                                    |
| A.23.P448936   | down | -2.366 | -1.243 | 2.366 | SMAD3  | Home sapiens SMAD family member 3 (SMAD3), transcript variant 1, mRNA [NM.005902]   |
| A.24.P165676   | down | -2.365 | -1.242 | 2.365 | GEMIN8   | Home sapiens gemin (nuclear organelle) associated protein 8 (GEMIN8), transcript variant 3, mRNA [NM.017856]                        |
| A.22.P00014276 | down | -2.364 | -1.241 | 2.364 | UNC20873   | Home sapiens long interspersed non-protein-coding RNA 673 (LINC00873), long non-coding RNA [NR.038486]                              |
| A.24.P4161657  | down | -2.363 | -1.241 | 2.363 | GGA2   | growth arrest-specific 5 (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:18351] [ENS:00000429771]                                 |
| A.33.P3247988  | down | -2.363 | -1.240 | 2.363 | GGA2   | Home sapiens N-glycosylated, gamma adaption ear containing, AAR binding protein 2 (GGAZ), mRNA [NM.015044]                          |
| A.23.P151588   | down | -2.362 | -1.240 | 2.362 | N6AMT2   | Home sapiens N-6 adenine-specific DNA methyltransferase 2 (N6AMT2) (N6AMT2), mRNA [NM.174828]                                       |
| A.21.P0014218  | down | -2.361 | -1.240 | 2.361 | LOC101927087   | Home sapiens uncharacterized LOC101927087 (LOC101927087), long non-coding RNA [NR.125410]   |
| A.24.P336137   | down | -2.361 | -1.239 | 2.361 | GZNF623  | Home sapiens chromosome 22 open reading frame 23 (GZNF623), transcript variant 1, mRNA [NM.002361]                                  |
| A.33.P327140   | down | -2.360 | -1.239 | 2.360 |  |   |
| A.24.P36474    | down | -2.359 | -1.238 | 2.359 | LDOL1L   | Home sapiens leucine zipper, down-regulated in cancer 1-like (LDOL1L), mRNA [NM.022287]   |
| A.23.P38376    | down | -2.359 | -1.238 | 2.359 | GEP112   | Home sapiens centromere protein 12 (GEP112), transcript variant 3, mRNA [NM.001189159]  |
| A.23.P38376    | down | -2.359 | -1.238 | 2.359 | SLC6A11  | Home sapiens solute carrier family 6 (neurotransmitter), member 11 (SLC6A11), mRNA [NM.001071842]                                   |
| A.21.P164388   | down | -2.358 | -1.238 | 2.358 | HBP1   | Home sapiens heterodimer binding protein 1 (HBP1), mRNA [NM.003236]   |
| A.33.P325171   | down | -2.357 | -1.237 | 2.357 | CYLD   | Home sapiens cytoskeleton-linked protein 2 (CYLD), transcript variant 1, mRNA [NM.018247]   |
| A.33.P325171   | down | -2.357 | -1.237 | 2.357 | PXMP2  | Home sapiens peroxisomal membrane protein 2 (PXMP2), mRNA [NM.018863]   |
| A.23.P14728    | down | -2.356 | -1.236 | 2.356 | ZNF280D  | Home sapiens zinc finger protein 280D (ZNF280D), transcript variant 1, mRNA [NM.017661]   |
| A.33.P3209993  | down | -2.356 | -1.236 | 2.356 | HCG118   | Home sapiens HLA complex, gene 18 (non-protein coding) (HCG118), transcript variant 3, long non-coding RNA [NR.102326]              |
| A.33.P160367   | down | -2.355 | -1.236 | 2.355 | ZMYND12  | Home sapiens zinc finger, MYND-type containing 12 (ZMYND12), transcript variant 1, mRNA [NM.032257]                                 |
| A.33.P3259002  | down | -2.355 | -1.235 | 2.355 | high mobility group nucleosomal binding domain 2 (ASADGNE 2) [Source:HGNC Symbol;Acc:HGNC:39495] [ENS:00000060102] |   |
| A.33.P3259002  | down | -2.355 | -1.235 | 2.355 | PYGO1  | Home sapiens pygo family PHD finger 1 (PYGO1), mRNA [NM.015617]   |
| A.33.P3209300  | down | -2.354 | -1.235 | 2.354 | SRFBF1   | Home sapiens serine/arginine-rich splicing factor 4 (SRFBF1), transcript variant 1, mRNA [NM.008275]                                |
| A.33.P3209300  | down | -2.354 | -1.235 | 2.354 | LOC2286437   | Home sapiens uncharacterized LOC2286437 (LOC2286437), long non-coding RNA [NR.039880]   |
| A.33.P3209300  | down | -2.354 | -1.235 | 2.354 | LOC2286437   | Home sapiens uncharacterized LOC2286437 (LOC2286437), long non-coding RNA [NR.039880]   |
| A.21.P0006347  | down | -2.352 | -1.234 | 2.352 | INC-DCAF10-2   | LINC01874 (INC-DCAF10-2), lincRNA [inc-DCAF10-2-1]  |
| A.24.P192727   | down | -2.352 | -1.234 | 2.352 | KAT5A1D1   | Kat5-type serine phosphatase inhibitor domain 1 [Source:HGNC Symbol;Acc:HGNC:28460] [ENS:00000465907]                               |
| A.24.P106172   | down | -2.351 | -1.233 | 2.351 | PKO2   | Home sapiens polyketide kinase disease 2 (autosomal dominant) (PKO2), mRNA [NM.000297]  |
| A.23.P23855    | down | -2.350 | -1.233 | 2.350 | POLR1G   | Home sapiens polymerase (RNA III) (DNA directed) polypeptide G (POLR1G) (POLR1G), mRNA [NM.032265]                                  |
| A.23.P379025   | down | -2.350 | -1.232 | 2.350 | GHRH2  | Home sapiens gonadotropin-releasing hormone type 2 receptor 2, pseudogene (GHRH2), transcript variant 1, non-coding RNA [NR.002328] |
| A.24.P14813    | down | -2.349 | -1.232 | 2.349 | FBXW7  | Home sapiens F-box and WD repeat domain containing 7, E3 ubiquitin protein ligase (FBXW7), transcript variant 1, mRNA [NM.033832]   |
| A.24.P381443   | down | -2.349 | -1.232 | 2.349 | SYNE4  | Home sapiens synaptonemal complex assembly factor 4 (SYNE4), transcript variant 4, mRNA [NM.015480]                                 |
| A.24.P381443   | down | -2.349 | -1.232 | 2.349 | SYNE4  | Home sapiens synaptonemal complex assembly factor 4 (SYNE4), transcript variant 4, mRNA [NM.015480]                                 |
| A.19.P0068978  | down | -2.347 | -1.231 | 2.347 | GGAGT  | Home sapiens GGTase II-like nucleotidyl transferase (GGAGT), transcript variant 2, mRNA [NM.0119387]                                |
| A.33.P3239876  | down | -2.347 | -1.231 | 2.347 | TM15   | Home sapiens RNA methyltransferase 5 (TM15), mRNA [NM.020810]   |
| A.33.P3239876  | down | -2.347 | -1.231 | 2.347 | TM15   | Home sapiens RNA methyltransferase 5 (TM15), mRNA [NM.020810]   |
| A.33.P3239876  | down | -2.346 | -1.230 | 2.346 | ZNF814   | Home sapiens zinc finger protein 814 (ZNF814), mRNA [NM.001144888]  |
| A.24.P32627    | down | -2.346 | -1.230 | 2.346 | LINC01183  | Home sapiens non-protein coding RNA 1183 (Source:HGNC Symbol;Acc:HGNC:49866) [ENS:00000051708]                                      |
| A.23.P81650    | down | -2.345 | -1.230 | 2.345 | C5orf15  | Home sapiens chromosome 5 open reading frame 15 (C5orf15), mRNA [NM.020195]   |
| A.21.P0000957  | down | -2.344 | -1.229 | 2.344 | LINC00882  | Home sapiens long interspersed non-protein coding RNA 882 (LINC00882), long non-coding RNA [NR.028303]                              |
| A.23.P120931   | down | -2.343 | -1.228 | 2.343 | AP0BEC3C   | Home sapiens adenosine B, RNA editing, catalytic polyphosphate-like 3C (AP0BEC3C), mRNA [NM.014508]                                 |
| A.32.P415151   | down | -2.342 | -1.228 | 2.342 | WDR27  | Home sapiens WD repeat domain 27 (WDR27), transcript variant 1, mRNA [NM.182552]  |
| A.21.P0014623  | down | -2.342 | -1.228 | 2.342 | SNHG21   | Home sapiens small nucleolar RNA host gene 21 (non-protein coding) (SNHG21), transcript variant 1, long non-coding RNA [NR.100996]  |
| A.24.P135748   | down | -2.342 | -1.228 | 2.342 | GRTF1  | Home sapiens growth hormone regulated TBC protein 1 (GRTF1), transcript variant 1, mRNA [NM.024719]                                 |
| A.33.P3367655  | down | -2.341 | -1.227 | 2.341 | PKR2   | Home sapiens phosphoinositide-3-kinase, regulatory subunit 2 (beta) (PKR2), transcript variant 1, mRNA [NM.005927]                  |
| A.33.P3367655  | down | -2.341 | -1.227 | 2.341 | G14orf28   | Home sapiens chromosome 9 open reading frame 157 (G14orf28), mRNA [NM.001073988]  |
| A.33.P3367655  | down | -2.340 | -1.227 | 2.340 | G14orf28   | Home sapiens chromosome 9 open reading frame 157 (G14orf28), mRNA [NM.001073988]  |
| A.24.P342259   | down | -2.340 | -1.227 | 2.340 | GHD9   | Home sapiens chromosome 14 open reading frame 281 (GHD9), mRNA [NM.0251354]   |
| A.33.P338016   | down | -2.340 | -1.227 | 2.340 | TM7  | Home sapiens transmembrane machinery associated 7 homolog (S. cerevisiae) (TM7), mRNA [NM.015933]                                   |
| A.33.P338016   | down | -2.340 | -1.227 | 2.340 | TM7  | Home sapiens transmembrane machinery associated 7 homolog (S. cerevisiae) (TM7), mRNA [NM.015933]                                   |
| A.21.P0013984  | down | -2.340 | -1.227 | 2.340 | ALX  | Home sapiens EGF receptor-like A3 (ALX), transcript variant 1, mRNA [NM.0019794]  |
| A.24.P401507   | down | -2.340 | -1.227 | 2.340 | EOGT   | Home sapiens EGF receptor-like A3 (ALX), transcript variant 1, mRNA [NM.0019794]  |
| A.33.P330384   | down | -2.339 | -1.226 | 2.339 | high mobility group nucleosomal binding domain 2 (ASADGNE 2) [Source:HGNC Symbol;Acc:HGNC:38382] [ENS:00000488956] |   |
| A.23.P501010   | down | -2.337 | -1.225 | 2.337 | GOL17A1  | Home sapiens Golgi, beta XVII subunit 1 (GOL17A1), mRNA [NM.000484]   |
| A.23.P131383   | down | -2.337 | -1.225 | 2.337 | FANCL  | Home sapiens Fanconi anemia, complementation group 1 (FANCL), transcript variant 2, mRNA [NM.018062]                                |
| A.32.P44453    | down | -2.337 | -1.225 | 2.337 | INPP1  | Home sapiens inositol polyphosphate-1-phosphatase (INPP1), transcript variant 2, mRNA [NM.002184]                                   |
| A.33.P3375486  | down | -2.336 | -1.224 | 2.336 |  |   |
| A.21.P0011684  | down | -2.336 | -1.224 | 2.336 | LINC01638  | Home sapiens long interspersed non-protein coding RNA 1638 (LINC01638), transcript variant 3, long non-coding RNA [NR.10720]        |
| A.32.P3226837  | down | -2.335 | -1.223 | 2.335 | OXGT1  | Home sapiens 3-oxoacid CoA transferase 1 (OXGT1), mRNA [NM.000438]  |
| A.32.P383848   | down | -2.335 | -1.223 | 2.335 | GPT2   | Home sapiens carnitine palmitoyltransferase 2 (GPT2), mRNA [NM.000698]  |
| A.23.P148119   | down | -2.335 | -1.223 | 2.335 | ZNF318   | Home sapiens zinc finger protein 318 (ZNF318), mRNA [NM.014345]   |
| A.33.P3447605  | down | -2.334 | -1.223 | 2.334 | LOC388641  | Home sapiens uncharacterized LOC388641 (LOC388641), long non-coding RNA [NR.033926]   |
| A.22.P0003384  | down | -2.333 | -1.222 | 2.333 | INC-CDD102B-8  | LINC01874 (INC-CDD102B-8), lincRNA [inc-CDD102B-8-2]  |
| A.33.P342259   | down | -2.333 | -1.222 | 2.333 | HIST2H2AC  | Home sapiens histone cluster 2, H2ac (HIST2H2AC), mRNA [NM.005171]  |
| A.33.P342259   | down | -2.333 | -1.222 | 2.333 | LEO1   | Home sapiens leucine zipper, down-regulated in cancer 1-like (LEO1), transcript variant 2, mRNA [NM.007286438]                      |
| A.33.P3270759  | down | -2.333 | -1.222 | 2.333 | ZNF16  | Home sapiens zinc finger protein 16 (ZNF16), mRNA [NM.001009596]  |
| A.33.P3451653  | down | -2.332 | -1.222 | 2.332 | LOC101874  | Home sapiens uncharacterized LOC101874 (LOC101874), long non-coding RNA [NR.033937]   |
| A.33.P3451653  | down | -2.332 | -1.222 | 2.332 | LOC101874  | Home sapiens uncharacterized LOC101874 (LOC101874), long non-coding RNA [NR.033937]   |
| A.32.P0001411  | down | -2.332 | -1.222 | 2.332 | DNAJC18  | OSGOD/HUMAN (OSGOD), Hsp70 domain containing (17-kDa) chaperonin 2 variant (Ergonom), partial (18S) [LOC2724242]                    |
| A.32.P148251   | down | -2.332 | -1.222 | 2.332 | NNT  | Home sapiens nucleoside nucleoside transferase C member 18 (DNAJC18), mRNA [NM.152866]  |
| A.23.P70148    | down | -2.329 | -1.219 | 2.329 | LOC100508302   | Home sapiens uncharacterized LOC100508302 (LOC100508302), long non-coding RNA [NR.126344]   |
| A.21.P0014175  | down | -2.329 | -1.219 | 2.329 | APEX1  | Home sapiens APEX nuclease (multifunctional DNA repair enzyme) 1 (APEX1), transcript variant 3, mRNA [NM.0080848]                   |
| A.23.P151653   | down | -2.329 | -1.219 | 2.329 |  |   |
| A.23.P200632   | down | -2.329 | -1.219 | 2.329 | ZNF302   | Home sapiens zinc finger protein 302 (ZNF302), transcript variant 1, mRNA [NM.018443]   |



|                |      |        |       |               |  |
|----------------|------|--------|-------|---------------|--|
| A.23.P346659   | down | -1.194 | 2.288 | DOX1          | Home sapiens DEAO box RNA-dependent ATPase 1 (DOX1), mRNA [NM.133837]  |
| A.33.P2324212  | down | -2.287 | 2.287 | RHDH1         | Home sapiens R3H domain containing 1 (RHDH1), transcript variant 1, mRNA [NM.001282798]  |
| A.21.P0001566  | down | -1.193 | 2.287 | inc-CREG1-1   | UNGed2a lincRNA (inc-CREG1-1), lincRNA [inc-CREG1-1]   |
| A.22.P00011916 | down | -1.193 | 2.286 | inc-PL1-CD1-1 | long intergenic non-protein coding RNA 467 (Source:HGNC Symbol:HGNC:28227) [ENST00000423222]   |
| A.22.P00016700 | down | -2.286 | 2.286 | ZNF461        | Home sapiens zinc finger protein 461 (ZNF461), transcript variant 1, mRNA [NM.152327]  |
| A.22.P0003378  | down | -1.193 | 2.286 | TFPANK3       | Home sapiens tetraspanin 33 (TFPANK3), mRNA [NM.178562]  |
| A.23.P161156   | down | -1.193 | 2.286 | ZNF438        | Home sapiens zinc finger protein 438 (ZNF438), transcript variant 2, mRNA [NM.182795]  |
| A.22.P0000804  | down | -2.285 | 2.285 | MIR31HG       | Home sapiens MIR31 host gene, non-protein coding, (MIR31HG), long non-coding RNA [NR.027054]   |
| A.24.P363365   | down | -1.192 | 2.285 | LOC7294810    | long intergenic non-protein coding RNA 7480 (Source:Ensembl:ENST00000295757)   |
| A.23.P0013458  | down | -1.192 | 2.285 | SC2ANAL       | Home sapiens SC2A nuclear autoantigen-like 1 (SC2ANAL), gene RNA [NR.023252]   |
| A.23.P167324   | down | -1.192 | 2.284 | EPHA1         | Home sapiens EPH receptor A1 (EPHA1), mRNA [NM.005232]   |
| A.33.P326224   | down | -2.284 | 2.284 | GEH68         | ectodermal protein 88kDa (Source:HGNC Symbol:HGNC:24076) [ENST00000261688]   |
| A.32.P101096   | down | -2.284 | 2.284 | LOC729887     | PREDICTED: Home sapiens uncharacterized LOC729887 (LOC729887), misc RNA [NR.244500]  |
| A.33.P3391476  | down | -1.191 | 2.283 | GRVZ          | Home sapiens cytoskeleton, zona (zona reducativa) (GRVZ), transcript variant 1, mRNA [NM.001130042]                                    |
| A.33.P3359653  | down | -2.283 | 2.283 | CADMS-AS1     | Home sapiens CADMS antisense RNA 1 (CADMS-AS1), long non-coding RNA [NR.001130042]   |
| A.24.P3090483  | down | -2.283 | 2.283 | USP31         | Home sapiens ubiquitin specific peptidase 31 (USP31), mRNA [NM.0207118]  |
| A.23.P156620   | down | -2.283 | 2.283 | ZNF184        | Home sapiens zinc finger protein 184 (ZNF184), mRNA [NM.0071149]   |
| A.33.P3355930  | down | -1.191 | 2.283 | FOXJ1         | Home sapiens forkhead box L1 (FOXJ1), mRNA [NM.005250]   |
| A.32.P181189   | down | -2.281 | 2.281 | LYRM7         | Home sapiens LYR motif containing 7 (LYRM7), transcript variant 1, mRNA [NM.1817095]   |
| A.33.P3271105  | down | -1.190 | 2.281 | PABPC4        | Home sapiens poly(A) binding protein, cytoplasmic 4 (inducible form) (PABPC4), transcript variant 3, mRNA [NM.001136654]               |
| A.21.P0000694  | down | -2.280 | 2.280 | NIFK-AS1      | Home sapiens NIFK antisense RNA 1 (NIFK-AS1), transcript variant 2, long non-coding RNA [NR.027658]                                    |
| A.22.P0005162  | down | -1.189 | 2.280 | CXorf29       | Home sapiens chromosome X open reading frame 23 (CXorf29), mRNA [NM.189279]  |
| A.23.P311901   | down | -1.188 | 2.279 | ATP10B        | Home sapiens ATPase, class V, type 10B (ATP10B), mRNA [NM.025133]  |
| A.22.P40024617 | down | -2.279 | 2.279 | PAN3-AS1      | Home sapiens PAN3 antisense RNA 1 (PAN3-AS1), long non-coding RNA [NR.029393]  |
| A.24.P192119   | down | -1.188 | 2.278 | NME3          | Home sapiens NME3 nucleoside diphosphate kinase 3 (NME3), mRNA [NM.002113]   |
| A.23.P162154   | down | -1.188 | 2.278 | LOC7294810    | long intergenic non-protein coding RNA 7480 (Source:Ensembl:ENST00000295757)   |
| A.21.P001584   | down | -1.187 | 2.277 | LOC10192046   | long intergenic non-protein coding RNA 7480 (Source:Ensembl:ENST00000295757)   |
| A.22.P0003023  | down | -2.277 | 2.277 | inc-C7orf13-3 | RNA [inc-C7orf13-3]  |
| A.22.P00004422 | down | -2.277 | 2.277 | inc-COP22-1   | lincRNA (inc-COP22-1), lincRNA [inc-COP22-1]   |
| A.24.P248741   | down | -1.186 | 2.275 | ZNF501        | Home sapiens zinc finger protein 501 (ZNF501), transcript variant 1, mRNA [NM.146004]  |
| A.33.P3347300  | down | -2.275 | 2.275 | TOMM7         | Home sapiens translocase of outer mitochondrial membrane 7 homolog (yeast) (TOMM7), mRNA [NM.019059]                                   |
| A.33.P3359856  | down | -2.274 | 2.274 | COMMD8        | mitotic spindle organizing protein 2A (Source:HGNC Symbol:HGNC:33187) [ENST00000445782]  |
| A.23.P442761   | down | -1.185 | 2.274 | FAF2          | Home sapiens COMMD domain containing 8 (COMMD8), mRNA [NM.017845]  |
| A.33.P308855   | down | -2.273 | 2.273 | FAF2B         | Home sapiens FERM, RhoGEF, and pleckstrin domain protein 2 (FAF2B), transcript variant 1, mRNA [NM.014808]                             |
| A.23.P18598    | down | -1.185 | 2.273 | PHK2B         | Home sapiens phosphatidylinositol 4-kinase type 2, beta (PHK2B), mRNA [NM.018823]  |
| A.21.P000007   | down | -2.273 | 2.273 | inc-DEK-1     | lincRNA (inc-DEK-1), lincRNA [inc-DEK-1]   |
| A.24.P250635   | down | -1.184 | 2.273 | TM4A          | Home sapiens threesdown-related transmembrane protein 4 (TM4A), mRNA [NM.0211196]  |
| A.22.P00023053 | down | -2.273 | 2.273 | NUP33         | Home sapiens threesdown-related transmembrane protein 4 (TM4A), mRNA [NM.0211196]  |
| A.23.P151791   | down | -1.184 | 2.271 | ITIH4R        | Home sapiens lectin-like receptor (ITIH4R), transcript variant 1, mRNA [NM.181657]   |
| A.33.P325023   | down | -1.183 | 2.271 | PANB9A        | Home sapiens family with sequence similarity 89, member A (PANB9A), transcript variant 5, mRNA [NM.001232273]                          |
| A.23.P433152   | down | -2.271 | 2.271 | C4orf33       | Home sapiens chromosome 4 open reading frame 33 (C4orf33), transcript variant 1, mRNA [NM.173897]                                      |
| A.21.P0000688  | down | -2.270 | 2.270 | ADAM1A        | Home sapiens ADAM metalloprotease domain 1A (Adam10) (ADAM1A), non-coding RNA [NR.03838]   |
| A.23.P164186   | down | -1.182 | 2.269 | DIS3          | Home sapiens non-protein coding RNA 732 (Source:HGNC Symbol:HGNC:20324) [ENST00000495939]  |
| A.23.P256649   | down | -2.269 | 2.269 | COL4A6        | Home sapiens V alpha 6 (Source:HGNC Symbol:HGNC:22016) [ENST00000461897]   |
| A.23.P256649   | down | -2.269 | 2.268 | MVL5          | Home sapiens transmembrane protein, left chain 5, metastatic (MVL5), mRNA [NM.007477]  |
| A.23.P242523   | down | -2.268 | 2.268 | LOC7294810    | long intergenic non-protein coding RNA 7480 (Source:Ensembl:ENST00000295757)   |
| A.23.P363968   | down | -2.268 | 2.268 | LOC7294810    | long intergenic non-protein coding RNA 7480 (Source:Ensembl:ENST00000295757)   |
| A.23.P253464   | down | -2.268 | 2.268 | FAM179A       | Home sapiens IQ motif containing 1 (CQCK), mRNA [NM.153268]  |
| A.23.P190131   | down | -2.268 | 2.268 | ZNF383        | Home sapiens family with sequence similarity 175, member A (FAM179A), mRNA [NM.139076]   |
| A.23.P157283   | down | -2.267 | 2.267 | TMEM43        | Home sapiens zinc finger protein 383 (ZNF383), mRNA [NM.152604]  |
| A.33.P3244951  | down | -2.265 | 2.265 | PDE8A         | Home sapiens leucine rich repeat containing 48 (LRRC48), transcript variant 2, mRNA [NM.001294]  |
| A.33.P35467    | down | -2.265 | 2.265 | IRBP          | Home sapiens phosphodiesterase 8A (PDE8A), transcript variant 3, mRNA [NM.001243137]   |
| A.32.P112779   | down | -2.265 | 2.265 | GHTF5         | Home sapiens GTF, chromosome transmission fidelity factor 5 homolog (S. cerevisiae) (GHTF5), transcript variant 1, mRNA [NM.001036960] |
| A.23.P421423   | down | -2.264 | 2.264 | TNFAIP2       | Home sapiens tumor necrosis factor, alpha-induced protein 2 (TNFAIP2), mRNA [NM.006291]  |
| A.33.P3219993  | down | -2.264 | 2.264 | ARVCF         | Home sapiens Arid3-like repeat gene deleted in velocardiofacial syndrome (ARVCF), mRNA [NM.001670]                                     |
| A.33.P302381   | down | -2.264 | 2.264 | RHCL1         | Home sapiens Rho-like family member 31 (RHCL1), mRNA [NM.001693760]  |
| A.23.P402328   | down | -2.264 | 2.264 | PRKLE1        | Home sapiens protein kinase domain 1 (Urospinal) (PRKLE1), transcript variant 1, mRNA [NM.153026]                                      |
| A.23.P31584    | down | -1.178 | 2.263 | ZNF418        | Home sapiens zinc finger protein 418 (ZNF418), transcript variant 1, mRNA [NM.001098491]   |
| A.22.P0011922  | down | -2.263 | 2.263 | inc-PTFNC1-1  | lincRNA (inc-PTFNC1-1), lincRNA [inc-PTFNC1-1]   |
| A.23.P210538   | down | -2.263 | 2.263 | ELMO2         | Home sapiens scaffolding and cell motility 2 (ELMO2), transcript variant 2, mRNA [NM.182784]   |
| A.33.P321033   | down | -2.262 | 2.262 | MAGR2D2       | Home sapiens chromosome 20, open reading frame 138, mRNA (cdna clone IMAGE4513187) [B0304836]  |
| A.33.P320079   | down | -2.262 | 2.262 | NFB           | Home sapiens nuclear factor, I kappa B (NFB), transcript variant 3, mRNA [NM.005996]   |
| A.21.P0001859  | down | -2.261 | 2.261 | SNORA27       | Home sapiens small nucleolar RNA, HACA box 27 (SNORA27), small nucleolar RNA [NR.002579]   |
| A.23.P12279    | down | -2.261 | 2.260 | ANKRD36B      | Home sapiens ankyrin repeat domain 36B (ANKRD36B), mRNA [NM.025190]  |
| A.33.P3361457  | down | -1.176 | 2.259 | IFNA22        | Home sapiens interferon, alpha, beta and omega, receptor 2 (IFNA22), transcript variant 4, mRNA [NM.000874]                            |
| A.33.P3420655  | down | -2.259 | 2.259 | ZNF415        | Home sapiens zinc finger protein 415 (ZNF415), transcript variant 1, mRNA [NM.001138038]   |
| A.33.P343031   | down | -1.175 | 2.259 | GLT1B1        | Home sapiens glycyltransferase 8 domain containing 1 (GLT1B1), transcript variant 3, mRNA [NM.001010963]                               |
| A.33.P3279290  | down | -2.258 | 2.258 | IFFO2         | Home sapiens intermediate filament family orphan 2 (IFFO2), mRNA [NM.001138285]  |
| A.33.P418031   | down | -1.175 | 2.258 | SH3BPGR       | Home sapiens SH3 domain binding glutamate-rich protein (SH3BPGR), transcript variant 1, mRNA [NM.007241]                               |
| A.33.P327282   | down | -2.258 | 2.257 | inc-PR3B-1    | lincRNA (inc-PR3B-1), lincRNA [inc-PR3B-1]   |
| A.22.P40022683 | down | -2.257 | 2.257 | NM5C8         | Home sapiens alpha-methyl-coenzyme A reductase (NM5C8), transcript variant 3, mRNA [NM.001107598]                                      |
| A.33.P331243   | down | -2.257 | 2.257 | LOC7294810    | long intergenic non-protein coding RNA 7480 (Source:Ensembl:ENST00000295757)   |
| A.23.P169731   | down | -2.256 | 2.256 | TAOK2         | Home sapiens tyrosine kinase domain containing 2 (TAOK2), transcript variant 1, mRNA [NM.002679]                                       |
| A.23.P36871    | down | -2.255 | 2.255 | AP0BC63F      | Home sapiens acyl-coenzyme A oxidase, catalytic polypeptide-like, 3F (AP0BC63F), transcript variant 1, mRNA [NM.143268]                |
| A.19.P00800166 | down | -2.254 | 2.254 | LOC101116     | Home sapiens long intergenic non-coding RNA 1116 (LOC101116), long non-coding RNA [NR.040001]  |
| A.23.P370569   | down | -2.254 | 2.254 | G12orf66      | Home sapiens chromosome 12 open reading frame 66 (G12orf66), transcript variant 2, mRNA [NM.152400]                                    |
| A.23.P389146   | down | -2.252 | 2.252 | ZNF549        | Home sapiens zinc finger protein 549 (ZNF549), transcript variant 2, mRNA [NM.152928]  |
| A.33.P338771   | down | -2.252 | 2.252 | USP9X         | Home sapiens ubiquitin specific peptidase 9, X-linked (USP9X), transcript variant 3, mRNA [NM.001038950]                               |

|                |  |        |        |      |       |                |
|----------------|--|--------|--------|------|-------|----------------|
| A.22.P00016333 |  | -2.251 | -1.171 | down | 2.251 | inc-TMEM159-2  |
| A.22.P00040209 |  | -2.251 | -1.170 | down | 2.251 | TMEM44-AS1     |
| A.23.P248224   |  | -2.251 | -1.170 | down | 2.251 | GSTF1          |
| A.33.P3419720  |  | -2.249 | -1.169 | down | 2.249 | MLH1           |
| A.21.P0000238  |  | -2.249 | -1.169 | down | 2.249 | SNORD12C       |
| A.24.P290125   |  | -2.248 | -1.169 | down | 2.248 | PP1A           |
| A.33.P2955812  |  | -2.248 | -1.169 | down | 2.248 | MEF2D          |
| A.23.P3341058  |  | -2.248 | -1.168 | down | 2.248 | NFIBD1         |
| A.23.P336322   |  | -2.247 | -1.168 | down | 2.247 | ZKSCAN4        |
| A.23.P336388   |  | -2.247 | -1.168 | down | 2.247 | ZKSCAN4        |
| A.24.P340403   |  | -2.246 | -1.168 | down | 2.246 | G526           |
| A.24.P340408   |  | -2.246 | -1.168 | down | 2.246 | G526           |
| A.23.P103040   |  | -2.245 | -1.167 | down | 2.245 | GREB1          |
| A.23.P356684   |  | -2.245 | -1.167 | down | 2.245 | NIP2F1         |
| A.24.P132276   |  | -2.245 | -1.167 | down | 2.245 | GRS1           |
| A.23.P331028   |  | -2.244 | -1.166 | down | 2.244 | CD109          |
| A.33.P3355040  |  | -2.243 | -1.165 | down | 2.243 | LOC729303      |
| A.23.P1368009  |  | -2.242 | -1.165 | down | 2.242 | HMGN5          |
| A.23.P270087   |  | -2.242 | -1.165 | down | 2.242 | TMEM237        |
| A.23.P30000    |  | -2.242 | -1.165 | down | 2.242 | FAM57A         |
| A.22.P00021919 |  | -2.242 | -1.165 | down | 2.242 | inc-LOH192R1-1 |
| A.23.P153683   |  | -2.241 | -1.164 | down | 2.241 | ECH1           |
| A.24.P345609   |  | -2.240 | -1.164 | down | 2.240 | RAI51D         |
| A.24.P414852   |  | -2.240 | -1.163 | down | 2.240 | TMEM168        |
| A.21.P0015327  |  | -2.240 | -1.163 | down | 2.240 | FTO-1T1        |
| A.33.P3262218  |  | -2.240 | -1.163 | down | 2.240 | DAE12E         |
| A.22.P0019184  |  | -2.239 | -1.163 | down | 2.239 | inc-GBX1-1     |
| A.23.P30188    |  | -2.239 | -1.163 | down | 2.239 | inc-GBX1-1     |
| A.23.P30188    |  | -2.239 | -1.163 | down | 2.239 | inc-GBX1-1     |
| A.21.P0003571  |  | -2.238 | -1.162 | down | 2.238 | LOC10060478    |
| A.33.P3313760  |  | -2.238 | -1.162 | down | 2.238 | TACL12         |
| A.33.P278145   |  | -2.237 | -1.162 | down | 2.237 | ZNF570         |
| A.33.P3233906  |  | -2.237 | -1.161 | down | 2.237 | RAMP1          |
| A.23.P144065   |  | -2.237 | -1.161 | down | 2.237 | TUBA4A         |
| A.33.P3400794  |  | -2.235 | -1.161 | down | 2.235 | UNCO00924      |
| A.24.P300043   |  | -2.235 | -1.160 | down | 2.235 | PCGF5          |
| A.32.P320083   |  | -2.234 | -1.160 | down | 2.234 | VCX2           |
| A.23.P377616   |  | -2.234 | -1.159 | down | 2.234 | ATP152         |
| A.23.P132469   |  | -2.234 | -1.159 | down | 2.234 | GLT1B1         |
| A.33.P3304893  |  | -2.233 | -1.159 | down | 2.233 | LOC729770      |
| A.33.P3379046  |  | -2.233 | -1.159 | down | 2.233 | RIF5B          |
| A.24.P411824   |  | -2.232 | -1.158 | down | 2.232 | NIPAL2         |
| A.23.P146111   |  | -2.231 | -1.158 | down | 2.231 | NIPAL2         |
| A.22.P0018605  |  | -2.231 | -1.158 | down | 2.231 | inc-TSUK1      |
| A.22.P0018605  |  | -2.231 | -1.158 | down | 2.231 | inc-TSUK1      |
| A.24.P27156    |  | -2.230 | -1.157 | down | 2.230 | HLTF           |
| A.33.P334363   |  | -2.230 | -1.157 | down | 2.230 | HEXD3          |
| A.33.P3214333  |  | -2.230 | -1.157 | down | 2.230 | FOXP1          |
| A.22.P421681   |  | -2.229 | -1.157 | down | 2.229 | TRM21          |
| A.33.P3424201  |  | -2.229 | -1.156 | down | 2.229 | LOC729291      |
| A.24.P3424201  |  | -2.228 | -1.156 | down | 2.228 | NDUFE2         |
| A.23.P417382   |  | -2.228 | -1.156 | down | 2.228 | IGF1R          |
| A.23.P383183   |  | -2.228 | -1.156 | down | 2.228 | GCGBP1         |
| A.23.P3038     |  | -2.227 | -1.155 | down | 2.227 | GPX2           |
| A.23.P377616   |  | -2.227 | -1.155 | down | 2.227 | GRI9P          |
| A.23.P345682   |  | -2.227 | -1.155 | down | 2.227 | IL17D          |
| A.21.P0014624  |  | -2.227 | -1.155 | down | 2.227 | LOC102726057   |
| A.24.P290519   |  | -2.227 | -1.155 | down | 2.227 | ZNF290         |
| A.22.P0001600  |  | -2.227 | -1.155 | down | 2.227 | LOC101559481   |
| A.33.P347144   |  | -2.226 | -1.155 | down | 2.226 | D1122          |
| A.33.P341939   |  | -2.226 | -1.154 | down | 2.226 | KOAL198        |
| A.23.P341939   |  | -2.226 | -1.154 | down | 2.226 | KOAL198        |
| A.22.P341939   |  | -2.226 | -1.154 | down | 2.226 | KOAL198        |
| A.22.P341939   |  | -2.226 | -1.154 | down | 2.226 | KOAL198        |
| A.23.P100660   |  | -2.224 | -1.153 | down | 2.224 | SERPINF1       |
| A.23.P3424111  |  | -2.224 | -1.153 | down | 2.224 | ZNF168         |
| A.23.P37432    |  | -2.224 | -1.153 | down | 2.224 | ZNF352         |
| A.23.P217658   |  | -2.222 | -1.152 | down | 2.222 | HK1            |
| A.23.P132378   |  | -2.221 | -1.151 | down | 2.221 | CELSR1         |
| A.33.P33624861 |  | -2.221 | -1.151 | down | 2.221 | ZFP30          |
| A.23.P302750   |  | -2.219 | -1.150 | down | 2.219 | MDM2           |
| A.24.P34105    |  | -2.219 | -1.149 | down | 2.219 | GSTF2          |
| A.33.P3436840  |  | -2.218 | -1.149 | down | 2.218 | HRSP12         |
| A.24.P411859   |  | -2.217 | -1.149 | down | 2.217 | RIF19A         |
| A.23.P301380   |  | -2.217 | -1.149 | down | 2.217 | ZNF572         |
| A.23.P301380   |  | -2.217 | -1.149 | down | 2.217 | ZNF572         |
| A.23.P301380   |  | -2.217 | -1.149 | down | 2.217 | ZNF572         |
| A.23.P343438   |  | -2.215 | -1.147 | down | 2.215 | UBE2Z          |
| A.23.P343438   |  | -2.215 | -1.147 | down | 2.215 | UBE2Z          |
| A.23.P16026    |  | -2.213 | -1.147 | down | 2.213 | UBE2Z          |
| A.23.P162465   |  | -2.213 | -1.147 | down | 2.213 | UBE2Z          |
| A.23.P32185    |  | -2.214 | -1.147 | down | 2.214 | LRRC3D         |
| A.23.P126254   |  | -2.214 | -1.146 | down | 2.214 | EBP3           |
| A.24.P132624   |  | -2.213 | -1.146 | down | 2.213 | NIPSNAP3B      |
| A.33.P3231960  |  | -2.213 | -1.146 | down | 2.213 | inc-ANKK-1     |
| A.21.P0011582  |  | -2.213 | -1.146 | down | 2.213 | UNCO1473       |

|                |      |        |       |                |  |
|----------------|------|--------|-------|----------------|--|
| A.23.P410013   | down | -1.146 | 2.213 | TMEM43         | Home sapiens transmembrane protein 263 (TMEM43), mRNA [NM_152261]  |
| A.24.PR26348   | down | -1.146 | 2.212 | ZC3H6          | Home sapiens zinc finger, CCHC-type containing 6 (ZC3H6), mRNA [NM_185381]   |
| A.23.P23765    | down | -1.145 | 2.212 | ITGB3BP        | Home sapiens integrin beta 3 binding protein (beta3-integrin), (ITGB3BP), transcript variant 2, mRNA [NM_014298]                     |
| A.22.P0006566  | down | -1.145 | 2.211 | INC-RAB40A1-1  | BX114424 Soares placenta NHP9 Home sapiens cDNA clone IMAGE508109197, mRNA sequence [BX114424]                                       |
| A.22.P00003353 | down | -1.145 | 2.211 | LINC00882      | Home sapiens long intergenic non-protein coding RNA 882 (LINC00882), long non-coding RNA [NR_028303]                                 |
| A.24.P184105   | down | -1.145 | 2.211 | BBS1           | Home sapiens Bardet-Biedl syndrome 1 (BBS1), mRNA [NM_026449]  |
| A.33.P3414113  | down | -1.144 | 2.210 | FAAHP1         | Home sapiens fatty acid amide hydrolase pseudogene 1 (FAAHP1), non-coding RNA [NR_045483]  |
| A.33.P3398970  | down | -1.144 | 2.210 | GEF8S          | Home sapiens guanine nucleotide exchange factor 8 (GEF8S), transcript variant 1, mRNA [NM_00129126]                                  |
| A.32.P122403   | down | -1.144 | 2.209 | CEB3           | Home sapiens calcium/zinc superoxide dismutase 2 (non-protein coding) (CASD2), transcript variant 3, long non-coding RNA [NR_028941] |
| A.32.P170821   | down | -1.144 | 2.209 | CASC2          | Home sapiens caspase recruitment domain 2 (CASC2), transcript variant 1, mRNA [NM_009499]  |
| A.32.P3243819  | down | -1.143 | 2.208 | WDR39          | Home sapiens WD domain associated protein 39 (WDR39), transcript variant 1, mRNA [NM_009298]   |
| A.33.P3246423  | down | -1.143 | 2.208 | RHE21A         | Home sapiens RHD domain containing 21A (RHE21A), transcript variant 1, mRNA [NM_001015203]   |
| A.23.P53112    | down | -1.142 | 2.207 | AKP1           | Home sapiens A kinase (PRKA) interacting protein 1 (AKP1), transcript variant 1, mRNA [NM_0206842]                                   |
| A.32.P2474706  | down | -1.141 | 2.206 | ZNF677-AS1     | Home sapiens ZNF677 antisense RNA 1 (read to head) (ZNF677-AS1), transcript variant 2, long non-coding RNA [NR_038322]               |
| A.24.P274270   | down | -1.141 | 2.206 | STAT1          | Home sapiens signal transducer and activator of transcription 1, 91kDa (STAT1), transcript variant beta, mRNA [NM_139266]            |
| A.21.P0012156  | down | -1.141 | 2.205 | SLITRK6        | Home sapiens SLIT and NTRK-like family, member 6 (SLITRK6), mRNA [NM_039229]   |
| A.32.PR63007   | down | -1.141 | 2.205 | SYCE2          | Home sapiens synaptonemal complex, central element protein 2 (SYCE2), mRNA [NM_001055718]  |
| A.32.P2321282  | down | -1.140 | 2.204 | LOC257398      | Home sapiens uncharacterized LOC257398 (LOC257398), transcript variant 1, long non-coding RNA [NR_034107]                            |
| A.33.P2415015  | down | -1.140 | 2.203 | ATL2           | Home sapiens atlastin GTPase 2 (ATL2), transcript variant 1, mRNA [NM_022374]  |
| A.33.P3385842  | down | -1.140 | 2.203 | CCDC57         | Home sapiens coiled-coil domain containing 7 (CCDC57), transcript variant 1, mRNA [NM_145023]  |
| A.33.P3571442  | down | -1.140 | 2.203 | INC-ANKRD11-5  | Home sapiens cDNA FL40824, clone TRACH2011113, [AK098143]  |
| A.19.P00316701 | down | -1.140 | 2.203 | SNHG5          | Home sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5), long non-coding RNA [NR_030338]                           |
| A.23.PR8901    | down | -1.140 | 2.203 | ZNF717         | Home sapiens zinc finger protein 717 (ZNF717), transcript variant 4, mRNA [NM_00129210]  |
| A.24.P412446   | down | -1.140 | 2.203 | CEBFB          | Home sapiens chromosome 3 centromeric region 89 (CEBFB), transcript variant 1, mRNA [NM_192734]                                      |
| A.33.P3307336  | down | -1.139 | 2.202 | ZSCAN3B        | Home sapiens zinc finger and SCAN domain containing 30 (ZSCAN3B), transcript variant 1, mRNA [NM_00116012]                           |
| A.33.P3243819  | down | -1.138 | 2.202 | SGSH           | Home sapiens sirtuin 6 (SGSH), transcript variant 1, mRNA [NM_153366]  |
| A.33.P3246423  | down | -1.138 | 2.201 | SGSH2          | Home sapiens sirtuin 6 (SGSH2), transcript variant 2, mRNA [NM_153366]   |
| A.24.P131182   | down | -1.138 | 2.201 | RMAN2          | Home sapiens retinoid-inducible myeloblastoma 2 (RMAN2), transcript variant 1, mRNA [NM_021628]                                      |
| A.33.P3243819  | down | -1.138 | 2.200 | DEGS1          | Home sapiens delta(6)-desaturase, splanchnic 1 (DEGS1), mRNA [NM_038376]   |
| A.33.P3314794  | down | -1.138 | 2.198 | LOC41          | Home sapiens IQ motif containing with AAA domain 1 (LOC41), transcript variant 1, mRNA [NM_024728]                                   |
| A.21.P0014794  | down | -1.138 | 2.197 | C7orf60        | Home sapiens chromosome 7 open reading frame 60 (C7orf60), transcript variant 1, mRNA [NM_032450]                                    |
| A.23.P134477   | down | -1.135 | 2.197 | SEL1L          | Home sapiens sel-1 suppressor of lin-12-like (C. elegans) (SEL1L), transcript variant 1, mRNA [NM_026065]                            |
| A.33.P3247678  | down | -1.135 | 2.197 | TLL1L1         | Home sapiens tubulin tyrosine ligase-like family member 11 (TLL1L1), transcript variant 2, mRNA [NM_194252]                          |
| A.24.P219114   | down | -1.135 | 2.196 | ANK3           | Home sapiens ankyrin 3, node of Flவர் (ankyrin G) (ANK3), transcript variant 1, mRNA [NM_029897]                                     |
| A.23.P232382   | down | -1.135 | 2.195 | PMEP1A1        | Home sapiens proteasome transmembrane protein, androgen induced 1 (PMEP1A1), transcript variant 1, mRNA [NM_020182]                  |
| A.24.P413124   | down | -1.134 | 2.195 | INC-AF131219-1 | Home sapiens primary neuroblastoma cDNA, cloneNbl06937, full insert sequence, [AB073660]   |
| A.23.P4311605  | down | -1.134 | 2.195 | MDM1           | Home sapiens Mdm1 nuclear protein homologue (MDM1), transcript variant 2, mRNA [NM_020128]   |
| A.23.P294782   | down | -1.134 | 2.195 | NR2F2-AS1      | Home sapiens NR2F2 antisense RNA 1 (NR2F2-AS1), transcript variant 3, long non-coding RNA [NR_129738]                                |
| A.33.P3241313  | down | -1.132 | 2.192 | PPP1D1         | Home sapiens PPP5 tetrapeptide repeat domain containing 1 (PPP1D1), mRNA [NM_001203281]  |
| A.21.P0000106  | down | -1.132 | 2.191 | SCUBE2         | Home sapiens signal peptide, CUB domain, EGF-like 2 (SCUBE2), transcript variant 1, mRNA [NM_028374]                                 |
| A.23.P103144   | down | -1.132 | 2.191 | TEF12          | Home sapiens Tef12, yeast transcription factor 12 (TEF12), transcript variant 2, mRNA [NM_001707262]                                 |
| A.33.P3243819  | down | -1.132 | 2.191 | TEF13          | Home sapiens Tef13, yeast transcription factor 13 (TEF13), transcript variant 1, mRNA [NM_001707262]                                 |
| A.24.P328534   | down | -1.131 | 2.191 | SP140          | Home sapiens SP140 nuclear body protein (SP140), transcript variant 1, mRNA [NM_001202237]   |
| A.33.P3334220  | down | -1.131 | 2.190 | ACACB          | Home sapiens acetyl-CoA carboxylase beta (ACACB), mRNA [NM_0010083]  |
| A.23.P1338681  | down | -1.130 | 2.188 | IL13RA         | Home sapiens interleukin 13 receptor, alpha (IL13RA), transcript variant 2, mRNA [NM_172200]   |
| A.23.P131596   | down | -1.130 | 2.188 | PRAD11         | Home sapiens prostate cancer-associated domain containing 1 (PRAD11), mRNA [NM_032319]   |
| A.23.P127133   | down | -1.130 | 2.188 | H2AFY2         | Home sapiens H2A histone family, member Y2 (H2AFY2), mRNA [NM_018649]  |
| A.33.P3254412  | down | -1.130 | 2.188 | ULK2           | Home sapiens unc-51 like autophagy activating kinase 2 (ULK2), transcript variant 1, mRNA [NM_014663]                                |
| A.23.P413624   | down | -1.130 | 2.188 | ZNF329         | Home sapiens zinc finger protein 329 (ZNF329), mRNA [NM_024620]  |
| A.23.P58819    | down | -1.130 | 2.188 | RANBP17        | RAN binding protein 17 (Source:HGNC Symbol;Acc:HGNC:14428) [ENS:0000059739]  |
| A.24.P416289   | down | -1.129 | 2.187 | KIAA0195       | Home sapiens KIAA0195 (KIAA0195), mRNA [NM_014738]   |
| A.33.P3308682  | down | -1.129 | 2.187 | GPX4           | Home sapiens glutathione peroxidase 4 (GPX4), transcript variant 3, mRNA [NM_001038948]  |
| A.24.P18651    | down | -1.128 | 2.186 | AEBP2          | Home sapiens AE binding protein 2 (AEBP2), transcript variant 1, mRNA [NM_152307]  |
| A.21.P0011603  | down | -1.128 | 2.185 | AMZ2           | Home sapiens archaebacterial family metallophosphatase 2 (AMZ2), transcript variant 1, mRNA [NM_016827]                              |
| A.23.P159110   | down | -1.128 | 2.185 | SLC39E3        | Home sapiens solute carrier family 39, member E3 (SLC39E3), mRNA [NM_018895]   |
| A.23.P121602   | down | -1.127 | 2.185 | SAP30          | Home sapiens SH3A-associated protein, 300kDa (SAP30), mRNA [NM_003864]   |
| A.23.P3243819  | down | -1.127 | 2.184 | MYT1           | Home sapiens mitogen-activated protein kinase 1 (MYT1), transcript variant 2, mRNA [NM_020194]                                       |
| A.23.P3243819  | down | -1.127 | 2.184 | MYT2           | Home sapiens mitogen-activated protein kinase 1 (MYT2), transcript variant 1, mRNA [NM_189279]                                       |
| A.33.P3243819  | down | -1.127 | 2.184 | VP527D         | Home sapiens cDNA clone IMAGE508109197, mRNA sequence [BX114424]   |
| A.23.P106527   | down | -1.126 | 2.183 | ZNF580         | Home sapiens zinc finger protein 580 (ZNF580), mRNA [NM_016088]  |
| A.24.P2471708  | down | -1.126 | 2.183 | LOC101827285   | Home sapiens uncharacterized LOC101827285 (LOC101827285), long non-coding RNA [NR_110219]  |
| A.33.P3231923  | down | -1.126 | 2.182 | ELL2           | Home sapiens elongation factor, RNA polymerase II, 2 (ELL2), mRNA [NM_012081]  |
| A.23.P58506    | down | -1.126 | 2.182 | CXorf23        | t644111 NC-CGEM2 Home sapiens cDNA clone IMAGE2099109_3, similar to SWI6A2 HUMAN Q14657/TBA2 PROTEIN, mRNA sequence [A491806]        |
| A.19.P00316423 | down | -1.126 | 2.182 | CXorf23        | Home sapiens chromosome X open reading frame 23 (CXorf23), mRNA [NM_189279]  |
| A.24.P487336   | down | -1.125 | 2.181 | NHEP2L-T12     | Home sapiens NHEP2L intronic transcript 2 (non-protein coding) (NHEP2L-T12), long non-coding RNA [NR_026923]                         |
| A.23.P3243819  | down | -1.125 | 2.181 | HIBCH          | Home sapiens 3-hydroxybutyryl-CoA hydrolase (HIBCH), transcript variant 1, mRNA [NM_014382]  |
| A.23.P164345   | down | -1.124 | 2.180 | GCNO           | Home sapiens cyclin G (GCNO), transcript variant 1, mRNA [NM_021147]   |
| A.23.P3243819  | down | -1.124 | 2.179 | SURP2          | Home sapiens SURP and G patch domain containing 2 (SURP2), transcript variant 1, mRNA [NM_001017392]                                 |
| A.23.P18562    | down | -1.123 | 2.179 | INC-CHD1L-1    | LINC678a lincRNA (inc-CHD1L-1), lincRNA [NM_001017392]   |
| A.21.P0001702  | down | -1.123 | 2.178 | SNORA28        | Home sapiens small nucleolar RNA, H/ACA box 28 (SNORA28), small nucleolar RNA [NR_029994]  |
| A.33.P3243819  | down | -1.123 | 2.178 | INC-DHX3B-5    | Home sapiens long intergenic non-protein coding RNA 94 (LINC00894), long non-coding RNA [NR_015429]                                  |
| A.23.P254081   | down | -1.123 | 2.178 | UAS            | Home sapiens long intergenic non-protein coding RNA 94 (LINC00894), long non-coding RNA [NR_015429]                                  |
| A.23.P3007382  | down | -1.122 | 2.177 | LINC00894      | Home sapiens long intergenic non-protein coding RNA 94 (LINC00894), long non-coding RNA [NR_015429]                                  |
| A.23.P3243819  | down | -1.122 | 2.177 | ZNF623         | Home sapiens zinc finger protein 623 (ZNF623), transcript variant 1, mRNA [NM_022600]  |
| A.23.P3243819  | down | -1.122 | 2.176 | ZNF623         | Home sapiens zinc finger protein 623 (ZNF623), transcript variant 2, mRNA [NM_022600]  |
| A.24.P3243819  | down | -1.122 | 2.176 | MTR            | Home sapiens MTR, methyltransferase (MTR), transcript variant 1, mRNA [NM_002634]  |
| A.24.P3243819  | down | -1.121 | 2.175 | DCLRE1B        | Home sapiens DNA cross-link repair 1B (DCLRE1B), mRNA [NM_022838]  |
| A.23.P48311    | down | -1.121 | 2.174 | TMEM164        | Home sapiens transmembrane protein, 164 (TMEM164), transcript variant 2, mRNA [NM_032227]  |
| A.23.P48311    | down | -1.121 | 2.174 | TMEM164        | Home sapiens transmembrane protein, 164 (TMEM164), transcript variant 1, mRNA [NM_002932]  |
| A.23.P48311    | down | -1.121 | 2.174 | PCCA           | Home sapiens prolyl 4C aminohydrolase, alpha polypeptide (PCCA), transcript variant 1, mRNA [NM_002932]                              |
| A.33.P3280694  | down | -1.121 | 2.174 | GSAP           | gamma-secretase activating protein (Source:HGNC Symbol;Acc:HGNC:28042) [ENS:0000034003]  |
| A.33.P3421007  | down | -1.121 | 2.174 |                |  |



|                |        |        |       |              |   |
|----------------|--------|--------|-------|--------------|---|
| A.19_P00321511 | -2.174 | -1.120 | 2.174 | SNHG5        | Home sapiens small nucleolar RNA host gene 5 (non-protein coding). (SNHG5). long non-coding RNA [NR 003038]                                   |
| A.23_P247468   | -2.173 | -1.120 | 2.173 | FZD3         | Home sapiens frizzled class receptor 3 (FZD3). transcript variant 1. mRNA [NM 001741]   |
| A.23_P247483   | -2.173 | -1.120 | 2.173 | DLX6         | Home sapiens distal-less homeobox 6 (DLX6). mRNA [NM 009222]  |
| A.33_P335464   | -2.173 | -1.120 | 2.173 | LOXL1        | Home sapiens lysyl oxidase-like 1 (LOXL1). mRNA [NM 005976]   |
| A.21_P0008725  | -2.172 | -1.119 | 2.172 | PREDICTED    | Home sapiens uncharacterized LOC102724253 (LOC102724253). ncRNA [XR 424955]   |
| A.23_P105276   | -2.171 | -1.118 | 2.171 | ZNF84        | Home sapiens zinc finger protein 84 (ZNF84). transcript variant 1. mRNA [NM 003428]   |
| A.23_P00790    | -2.171 | -1.118 | 2.171 | METAP1D      | Home sapiens methylcrotonoyl-CoA carboxylase type 1D (mitochondrial) (METAP1D). mRNA [NM 198227]  |
| A.19_P0025614  | -2.170 | -1.118 | 2.170 | ITC5         | Home sapiens tetrahydropteridine repeat domain 5 (ITC5). mRNA [NM 138276]   |
| A.33_P334708   | -2.170 | -1.118 | 2.170 | GALNT7       | Home sapiens polypeptide N-acetylglucosaminyltransferase 7 (GALNT7). mRNA [NM 017423]   |
| A.21_P017383   | -2.169 | -1.117 | 2.169 | MARS2        | Home sapiens matrix metalloproteinase 2 (MARS2). mRNA [NM 001063630]  |
| A.23_P006036   | -2.169 | -1.117 | 2.169 | ERL2         | Home sapiens epidermal growth factor receptor-like receptor 2 (ERL2). transcript variant 1. mRNA [NM 001775]                                  |
| A.24_P327217   | -2.169 | -1.117 | 2.169 | TMED10       | Home sapiens transmembrane emp24-like trafficking protein 10 (vesicle) (TMED10). mRNA [NM 008827]   |
| A.24_P017833   | -2.169 | -1.117 | 2.169 | CBorf142     | Home sapiens chromosome 9 open reading frame 142 (CBorf142). mRNA [NM 183241]   |
| A.21_P0312646  | -2.168 | -1.116 | 2.168 | ZNF518A      | zinc finger protein 518A [Source:HGNC Symbol;Acc:HGNC:20009] [ENST00000563195]  |
| A.21_P0014669  | -2.167 | -1.116 | 2.167 | PXMP4        | Home sapiens peroxisomal membrane protein 4, 24kDa (PXMP4). transcript variant 1. mRNA [NM 007238]  |
| A.23_P137504   | -2.167 | -1.116 | 2.167 | ZEB1B37      | Home sapiens zinc finger and BTB domain containing 37 (ZEB1B37). transcript variant 4. mRNA [NM 032622]                                       |
| A.33_P3382537  | -2.166 | -1.115 | 2.166 | TRZ          | Home sapiens thymidine kinase 2, mitochondrial (TK2). transcript variant 1. mRNA [NM 004614]  |
| A.22_P00014003 | -2.166 | -1.115 | 2.166 | lnc-RUNX2-2  | LINCpacta lincRNA (lnc-RUNX2-2). lincRNA [lnc-RUNX2-2.1]  |
| A.32_P232558   | -2.165 | -1.114 | 2.165 | PRKG-AS1     | Home sapiens PRKG antisense RNA 1 (PRKG-AS1). transcript variant 1. long non-coding RNA [NR 036502]   |
| A.32_P124968   | -2.165 | -1.114 | 2.165 | ZNF284       | zinc finger protein 284 [Source:HGNC Symbol;Acc:HGNC:13078] [ENST00000211716]   |
| A.24_P308949   | -2.164 | -1.114 | 2.164 | CASC4        | Home sapiens cancer susceptibility candidate 4 (CASC4). transcript variant 1. mRNA [NM 138423]  |
| A.22_P00007605 | -2.164 | -1.114 | 2.164 | lnc-HEATR1-1 | GSTC10 HUMAN (GSTC10) Lectin, galactoside-binding, soluble B (Gallectin B), partial (2%) [TF0230568]  |
| A.23_P36602    | -2.164 | -1.114 | 2.164 | PPP          | Home sapiens intracellular particle-promoted polypeptide (PPP). transcript variant 1. mRNA [NM 005897]  |
| A.23_P101532   | -2.164 | -1.114 | 2.164 | KRI1         | Home sapiens KRI1 homolog (S. cerevisiae) (KRI1). mRNA [NM 023008]  |
| A.23_P433941   | -2.164 | -1.113 | 2.164 | SAND1        | Home sapiens sterile alpha motif domain containing 1 (SAND1). mRNA [NM 138392]  |
| A.23_P0005845  | -2.163 | -1.113 | 2.163 | BAZ2B        | Home sapiens zinc finger cancer endonuclease associated protein 2 (BAZ2B). long non-coding RNA [NR 015446]                                    |
| A.24_P020584   | -2.163 | -1.113 | 2.163 | BAZ2C        | Home sapiens zinc finger cancer endonuclease associated protein 3 (BAZ2C). long non-coding RNA [NR 015447]                                    |
| A.23_P38444    | -2.163 | -1.113 | 2.163 | TONM7        | Home sapiens member of the tonoplast membrane protein 7 multigene family (TONM7) [OMIM 1010059]   |
| A.23_P215751   | -2.163 | -1.113 | 2.163 | NUF1A5       | Home sapiens NADH dehydrogenase (ubiquinone) 1 alpha subunit 5 (NUF1A5). transcript variant 1. mRNA [NM 005900]                               |
| A.33_P3300985  | -2.161 | -1.112 | 2.161 | HXCGR        | Home sapiens homeobox C8 (HXCGR). transcript variant 1. mRNA [NM 004503]  |
| A.33_P3351620  | -2.160 | -1.111 | 2.160 | PACR1        | Home sapiens PAX1 associated glutamine-rich protein 1 (PACR1). mRNA [NM 024516]   |
| A.33_P3375140  | -2.160 | -1.111 | 2.160 | EARS2        | Home sapiens eDNA-FLJ13884, fig. clone, THYPO1001534. [AK023946]  |
| A.23_P132353   | -2.160 | -1.111 | 2.160 | PKK          | Home sapiens glutamyl-tRNA synthetase 2, mitochondrial (EARS2). transcript variant 1. mRNA [NM 001083614]                                     |
| A.24_P140204   | -2.159 | -1.110 | 2.159 | TOR3A        | Home sapiens PX domain containing serine/threonine kinase (PKK). transcript variant 1. mRNA [NM 017771]                                       |
| A.24_P130082   | -2.157 | -1.109 | 2.157 | TMEM180      | Home sapiens transmembrane protein 180 (TMEM180). mRNA [NM 029189]  |
| A.23_P437729   | -2.157 | -1.109 | 2.157 | LNK2         | Home sapiens ligand of numb-protein X 2 (LNK2). mRNA [NM 153371]  |
| A.23_P292587   | -2.156 | -1.109 | 2.156 | IL15         | Home sapiens interleukin 15 (IL15). transcript variant 2. mRNA [NM 192297]  |
| A.23_P298953   | -2.156 | -1.108 | 2.156 | THYNI        | Home sapiens thymocyte nuclear protein 1 (THYNI). transcript variant 1. mRNA [NM 016827]  |
| A.33_P3225472  | -2.155 | -1.108 | 2.155 | AMZ2         | Home sapiens archaean family metallophosphates 2 (AMZ2). transcript variant 1. mRNA [NM 005786]   |
| A.23_P232381   | -2.155 | -1.108 | 2.155 | USH2L        | Home sapiens usherin zinc finger homeobox 1 (USH2L). mRNA [NM 037398]   |
| A.23_P42928    | -2.155 | -1.108 | 2.155 | DUX1         | Home sapiens dual oxidase 1 (DUX1). transcript variant 1. mRNA [NM 017434]  |
| A.33_P335655   | -2.154 | -1.107 | 2.154 | UBI2P1       | Home sapiens ubiquitin protein 1 (UBI2P1). transcript variant 1. mRNA [NM 020764]   |
| A.23_P210378   | -2.154 | -1.107 | 2.154 | GASSM1       | Home sapiens GASSM1 (GASSM1). mRNA [NM 020764]  |
| A.32_P104738   | -2.154 | -1.107 | 2.154 | FG08         | Home sapiens FVE, rhGEEF and PH domain containing 6 (FG08). mRNA [NM 018395]  |
| A.33_P3362148  | -2.154 | -1.107 | 2.154 | ITC28-AS1    | Home sapiens ITC28 antisense RNA 1 (ITC28-AS1). transcript variant 1. long non-coding RNA [NR 026983]   |
| A.22_P00001917 | -2.153 | -1.107 | 2.153 | ND           | isolated of 5'-A dehydrogenase [Source:HGNC Symbol;Acc:HGNC:6186] [ENST00000481262]   |
| A.23_P33829    | -2.153 | -1.106 | 2.153 | TRM24        | Home sapiens trypsinase motif containing 24 (TRM24). transcript variant 1. mRNA [NM 019005]   |
| A.23_P34047    | -2.153 | -1.106 | 2.153 | UGT2B15      | Home sapiens UDP glucuronosyltransferase 2 family polypeptide B15 (UGT2B15). mRNA [NM 001076]   |
| A.22_P00008347 | -2.152 | -1.106 | 2.152 | LINC00648    | Home sapiens long intergenic non-protein coding RNA 646 (LINC00648). long non-coding RNA [NR 033861]  |
| A.33_P340853   | -2.152 | -1.106 | 2.152 | GGTLO2       | Home sapiens gamma-glutamyltransaminase light chain 2 (GGTLO2). transcript variant 3. mRNA [NM 00128379]                                      |
| A.24_P15062    | -2.152 | -1.106 | 2.152 | ZNF490       | Home sapiens zinc finger protein 490 (ZNF490). mRNA [NM 020714]   |
| A.23_P102109   | -2.151 | -1.105 | 2.151 | TUBA4A       | Home sapiens tubulin, alpha 4a (TUBA4A). transcript variant 1. mRNA [NM 006000]   |
| A.33_P324788   | -2.151 | -1.105 | 2.151 | LOC100129481 | Home sapiens uncharacterized LOC100129481 (LOC100129481). transcript variant 2. long non-coding RNA [NR 726018]                               |
| A.23_P150683   | -2.150 | -1.104 | 2.150 | FJX1         | Home sapiens four jointed box 1 (Drosophila) (FJX1). mRNA [NM 014344]   |
| A.22_P0012802  | -2.150 | -1.104 | 2.150 | lnc-FANBP1-1 | Home sapiens cDNA clone IMAGE486350, partial cde. [EC084478]  |
| A.32_P123850   | -2.149 | -1.104 | 2.149 | PHRC3        | Home sapiens NHL repeat containing 3 (PHRC3). transcript variant 1. mRNA [NM 0012754]   |
| A.23_P330253   | -2.149 | -1.104 | 2.149 | PTP92B       | Home sapiens protein tyrosine phosphatase 92B (PTP92B). transcript variant 1. mRNA [NM 002801]  |
| A.23_P162758   | -2.149 | -1.103 | 2.149 | CEBPA3       | Home sapiens protein tyrosine phosphatase 92B, alternative splicing variant 1. mRNA [NM 016122]   |
| A.23_P360166   | -2.148 | -1.103 | 2.148 | DEPTOR       | Home sapiens DEP domain containing MTOR-interacting protein (DEPTOR). transcript variant 1. mRNA [NM 022783]                                  |
| A.33_P3412302  | -2.148 | -1.103 | 2.148 | MBM1.3       | Home sapiens muscleblind-like salivary receptor 3 (MBM1.3). transcript variant 6. mRNA [NM 001170794]   |
| A.21_P0010448  | -2.148 | -1.103 | 2.148 | MMAA         | MAF interacting protein (pseudogene) [Source:HGNC Symbol;Acc:HGNC:31102] [ENS0000060700]  |
| A.33_P3405168  | -2.148 | -1.103 | 2.148 | XYL12        | Home sapiens xylosyltransferase II (XYL12). transcript variant 1. mRNA [NM 022167]  |
| A.23_P15582    | -2.148 | -1.103 | 2.148 | DDX11-AS1    | Home sapiens DDX11 antisense RNA 1 (DDX11-AS1). long non-coding RNA [NR 038927]   |
| A.21_P0007523  | -2.148 | -1.103 | 2.148 | ATP5G1       | Home sapiens ATP synthase, H+ transporting, mitochondrial Fo complex, subunit C1 (subunit 9) (ATP5G1). transcript variant 1. mRNA [NM 005175] |
| A.23_P236083   | -2.147 | -1.102 | 2.147 | AGPAT1       | Home sapiens 1-acylglycerol-3-phosphate O-acyltransferase 1 (AGPAT1). transcript variant 1. mRNA [NM 006411]                                  |
| A.19_P00322944 | -2.147 | -1.102 | 2.147 | SNHG5        | Home sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5). long non-coding RNA [NR 003038]                                    |
| A.24_P163237   | -2.147 | -1.102 | 2.147 | STOX2        | Home sapiens storkhead box 2 (STOX2). mRNA [NM 020229]  |
| A.22_P0001910  | -2.146 | -1.101 | 2.146 | IDH1-AS1     | Home sapiens IDH1 antisense RNA 1 (IDH1-AS1). long non-coding RNA [NR 046452]   |
| A.33_P324798   | -2.146 | -1.101 | 2.146 | CP31         | Home sapiens carboxyl-phosphate synthase 1, mitochondrial (CP31). transcript variant 2. mRNA [NM 0018175]                                     |
| A.23_P323687   | -2.145 | -1.101 | 2.145 | PUS10        | Home sapiens pseudouridylylase synthase 10 (PUS10). mRNA [NM 144709]  |
| A.22_P00019123 | -2.144 | -1.100 | 2.144 | SLC3E3       | solute carrier family 3E, member E3 [Source:HGNC Symbol;Acc:HGNC:20816] [ENS 00000399333]   |
| A.23_P10317    | -2.144 | -1.100 | 2.144 | SLC3E4       | solute carrier family 3E, member E4 [Source:HGNC Symbol;Acc:HGNC:20817] [ENS 00000399333]   |
| A.21_P131317   | -2.144 | -1.100 | 2.144 | BALM1        | Home sapiens low density lipoprotein receptor-related protein 4 (LRP4). mRNA [NM 020285]  |
| A.23_P338244   | -2.144 | -1.100 | 2.144 | BAF40A       | Home sapiens BAF40A (BAF40A). mRNA [NM 001031834]   |
| A.33_P3368719  | -2.144 | -1.100 | 2.144 | OXSM         | Home sapiens 3-oxoacyl-CoA synthetase, mitochondrial (OXSM). transcript variant 1. mRNA [NM 011897]   |
| A.33_P324683   | -2.144 | -1.100 | 2.144 | lnc-AT11B-2  | LINCpacta lincRNA (lnc-AT11B-2). lincRNA [lnc-AT11B-2.1]  |
| A.23_P92261    | -2.144 | -1.100 | 2.144 | EC2          | Home sapiens endothelin converting enzyme 2 (EC2). transcript variant 3. mRNA [NM 032331]   |
| A.33_P3362926  | -2.144 | -1.100 | 2.144 | MEI31        | Home sapiens mediator complex subunit 31 (MEI31). mRNA [NM 016660]  |
| A.19_P00031718 | -2.143 | -1.100 | 2.143 | SNHG5        | Home sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5). long non-coding RNA [NR 003038]                                    |

|                |        |        |       |      |              |  |
|----------------|--------|--------|-------|------|--------------|--|
| A.33.P330060   | -2.143 | -1.100 | 2.143 | down | PRAMI        | Home sapiens PML-RARA regulated adaptor molecule 1 (PRAMI), mRNA [NM_032132]   |
| A.23.P100203   | -2.143 | -1.100 | 2.143 | down | HSP1         | Home sapiens heat shock factor binding protein 1 (HSP1), mRNA [NM_001537]  |
| A.24.P105049   | -2.143 | -1.100 | 2.143 | down | SLC39A6      | Home sapiens solute carrier family 39 (zinc transporter), member 6 (SLC39A6), transcript variant 1, mRNA [NM_012319]                                   |
| A.23.P43210    | -2.143 | -1.099 | 2.143 | down | N4BP1        | Home sapiens NEDD4 binding protein 1 (N4BP1), mRNA [NM_153029]   |
| A.33.P395182   | -2.143 | -1.099 | 2.143 | down | METTL8       | Home sapiens methyltransferase like 8 (METTL8), mRNA [NM_024770]   |
| A.33.P337346   | -2.142 | -1.099 | 2.142 | down | AF3          | AF-4-FMZ2 family member 3 (Source:HGNC Symbol;Acc:HGNC:6473) [ENST00000483800]   |
| A.21.P001743   | -2.141 | -1.098 | 2.141 | down | LINC000665   | Home sapiens long intergenic non-protein coding RNA 665 (LINC000665), transcript variant 1, long non-coding RNA [NR_038278]                            |
| A.23.P101374   | -2.140 | -1.097 | 2.140 | down | CYP23B1      | Cytochrome P450, family 2, subfamily 3, polypeptide 1 (Source:HGNC Symbol;Acc:HGNC:19654) [ENST00000100564]  |
| A.24.P303086   | -2.139 | -1.097 | 2.139 | down | ZNF238       | Home sapiens zinc finger protein 230 (ZNF230), mRNA [NM_006300]  |
| A.19.P00203846 | -2.139 | -1.097 | 2.139 | down | UBAP2-AS1    | Home sapiens UBAP2 antisense RNA 1 (transcript from the 3' end of the UBAP2-AS1), long non-coding RNA [NR_015438]                                      |
| A.23.P100357   | -2.139 | -1.097 | 2.139 | down | UCP3         | Home sapiens uncoupling protein 3 (UCP3), mRNA [NM_001001001]  |
| A.23.P104565   | -2.138 | -1.097 | 2.138 | down | ZC637        | Home sapiens zinc finger protein C637 (ZC637), transcript variant 4, mRNA [NM_032236]  |
| A.23.P03772    | -2.138 | -1.097 | 2.138 | down | HOXA5        | Home sapiens homeobox A5 (HOXA5), mRNA [NM_011020]   |
| A.23.P115865   | -2.138 | -1.096 | 2.138 | down | MNPP1        | Home sapiens multiple nucleolar phosphoprotein nucleophosmin 1 (MNPP1), transcript variant 1, mRNA [NM_004887]   |
| A.33.P015946   | -2.138 | -1.096 | 2.138 | down | ANKK1        | Home sapiens ankyrin repeat domain 1 (ANKK1), transcript variant 1, mRNA [NM_001088865]  |
| A.33.P3270059  | -2.137 | -1.096 | 2.137 | down | RIPK1        | Home sapiens cDNA FLJ27474, fig. clone SYNG3752, JAK130724   |
| A.33.P3280633  | -2.137 | -1.096 | 2.137 | down | GRAT         | Home sapiens receptor (TMRFSF)-interacting, serine threonine kinase 1 (RIPK1), mRNA [NM_003804]  |
| A.33.P3308223  | -2.137 | -1.095 | 2.137 | down | MMS22L       | Home sapiens MMS22-like DNA repair protein (MMS22L), mRNA [NM_198488]  |
| A.24.P367421   | -2.137 | -1.095 | 2.137 | down | LMT2L        | Home sapiens lamin B1 domain containing 2 (LMT2L), mRNA [NM_173573]  |
| A.33.P337005   | -2.136 | -1.095 | 2.136 | down | LOC6643802   | Home sapiens u3 small nucleolar ribonucleoprotein protein MPP10-like (LOC643802), mRNA [NM_001207000]  |
| A.24.P221968   | -2.135 | -1.094 | 2.135 | down | LINC01122    | Home sapiens long intergenic non-protein coding RNA 1122 (LINC01122), long non-coding RNA [NR_033873]  |
| A.19.P0015581  | -2.135 | -1.094 | 2.135 | down | GGT1C1       | Home sapiens gamma glutamyltransferase light chain 1 (GGT1C1), transcript variant 4, mRNA [NM_178311]  |
| A.21.P007238   | -2.134 | -1.093 | 2.134 | down | ZNF347       | Long intergenic non-protein coding RNA 1316 (Source:HGNC Symbol;Acc:HGNC:30637) [ENST00002424895]  |
| A.33.P3212487  | -2.134 | -1.093 | 2.134 | down | ZNF347       | Home sapiens zinc finger protein 347 (ZNF347), transcript variant 1, mRNA [NM_00112614]  |
| A.33.P3241433  | -2.134 | -1.093 | 2.134 | down | MOR2         | Home sapiens MOR2 receptor coding sequence (MOR2), transcript variant 1, mRNA [NM_001045450]   |
| A.33.P340645   | -2.133 | -1.092 | 2.133 | down | MOR2         | Home sapiens MOR2 receptor coding sequence (MOR2), transcript variant 1, mRNA [NM_001045450]   |
| A.33.P3405743  | -2.132 | -1.092 | 2.132 | down | GRY2         | Home sapiens protein tyrosine phosphatase (Grp22), transcript variant 1, mRNA [NM_001030042]   |
| A.33.P3404229  | -2.131 | -1.092 | 2.131 | down | HIST1H4A     | Home sapiens histone cluster 1, H4 (HIST1H4A), mRNA [NM_003338]  |
| A.33.P3304538  | -2.131 | -1.092 | 2.131 | down | RNF207       | Home sapiens zinc finger protein 207 (RNF207), mRNA [NM_207388]  |
| A.23.P371888   | -2.131 | -1.092 | 2.131 | down | FAN1         | Home sapiens FANCD2/FANCG-associated nuclease 1 (FAN1), transcript variant 1, mRNA [NM_014867]   |
| A.33.P3364933  | -2.131 | -1.092 | 2.131 | down | P4HA2        | Home sapiens prolyl 4-hydroxylase, alpha polypeptide II (P4HA2), transcript variant 2, mRNA [NM_001017873]   |
| A.22.P00016861 | -2.131 | -1.092 | 2.131 | down | LRRCC19A-AS1 | Home sapiens LRRCC19A antisense RNA 1 (LRRCC19A-AS1), transcript variant 27, long non-coding RNA [NR_045024]   |
| A.21.P3107073  | -2.131 | -1.091 | 2.131 | down | ZMYM3        | Home sapiens zinc finger, MYM-type 3 (ZMYM3), transcript variant 2, mRNA [NM_005096]   |
| A.21.P0014682  | -2.130 | -1.091 | 2.130 | down | LOC101927507 | aneclamin 7 pseudogene 1 (Source:HGNC Symbol;Acc:HGNC:39248) [ENST00000609288]   |
| A.33.P3374117  | -2.130 | -1.091 | 2.130 | down | LOC101927507 | Home sapiens zinc finger protein 347 (ZNF347), transcript variant 1, mRNA [NM_00112614]  |
| A.22.P00082828 | -2.129 | -1.090 | 2.129 | down | LOC101927507 | Home sapiens zinc finger protein 347 (ZNF347), transcript variant 1, mRNA [NM_00112614]  |
| A.23.P377048   | -2.129 | -1.090 | 2.129 | down | LOC101927507 | Home sapiens zinc finger protein 347 (ZNF347), transcript variant 1, mRNA [NM_00112614]  |
| A.33.P3237222  | -2.129 | -1.090 | 2.129 | down | SLC25A29     | Home sapiens solute carrier family 25 (mitochondrial carnitine/acylcarnitine carrier), member 29 (SLC25A29), transcript variant 1, mRNA [NM_001033395] |
| A.24.P328287   | -2.129 | -1.089 | 2.129 | down | BR33         | Home sapiens bromodomain containing 3 (BR33), mRNA [NM_007371]   |
| A.24.P320262   | -2.128 | -1.089 | 2.128 | down | DANC9        | Home sapiens diffractant containing non-protein coding RNA (DANC9), long non-coding RNA [NR_024851]  |
| A.32.P31178    | -2.128 | -1.089 | 2.128 | down | TEK14        | Home sapiens tekin 4 (TEK14), transcript variant 1, mRNA [NM_144103]   |
| A.23.P310142   | -2.127 | -1.088 | 2.127 | down | RA314153     | Home sapiens retinoid X receptor pseudogene (LOC102453190), transcript variant 1, non-coding RNA [NR_037871]   |
| A.33.P3346384  | -2.127 | -1.088 | 2.127 | down | LOC102724074 | Home sapiens predicted transcript (LOC102724074), transcript variant 2, long non-coding RNA [NR_026572]  |
| A.24.P256404   | -2.127 | -1.088 | 2.127 | down | LOC101133816 | Home sapiens cDNA FLJ35883, fig. clone TES12038929 (A1038202)  |
| A.19.P00319005 | -2.127 | -1.088 | 2.127 | down | SNHG5        | Home sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5), long non-coding RNA [NR_003038]   |
| A.24.P106357   | -2.127 | -1.088 | 2.127 | down | WRB38        | Home sapiens WD repeat domain 38 (WRB38), mRNA [NM_193281]   |
| A.23.P202458   | -2.126 | -1.088 | 2.126 | down | ZNF22        | Home sapiens zinc finger protein 22 (ZNF22), mRNA [NM_008663]  |
| A.24.P379612   | -2.126 | -1.088 | 2.126 | down | PIGK         | Home sapiens phosphatidylinositol glycan anchor biosynthesis, class K (PIGK), mRNA [NM_005462]   |
| A.23.P313512   | -2.125 | -1.087 | 2.125 | down | DCHP1B       | Home sapiens desapping RNA 1B (DCHP1B), mRNA [NM_152640]   |
| A.23.P11214    | -2.125 | -1.087 | 2.125 | down | NKRF         | Home sapiens NKRF repressing factor (NKRF), transcript variant 2, mRNA [NM_178832]   |
| A.23.P430802   | -2.124 | -1.087 | 2.124 | down | MORNA        | Home sapiens MORN repeat containing 4 (MORNA), transcript variant 1, mRNA [NM_178832]  |
| A.24.P25326    | -2.124 | -1.087 | 2.124 | down | ZMYM6        | Home sapiens zinc finger, MYM-type 6 (ZMYM6), mRNA [NM_007167]   |
| A.23.P151780   | -2.124 | -1.087 | 2.124 | down | GOK14        | Home sapiens GOK14 cytochrome c oxidase assembly factor (GOK14), transcript variant 1, mRNA [NM_032901]  |
| A.32.P3278     | -2.124 | -1.086 | 2.124 | down | ARHGFB2      | Home sapiens Rho guanine nucleotide exchange factor (GEF) 2B (ARHGFB2), transcript variant 1, mRNA [NM_001251982]                                      |
| A.23.P407115   | -2.123 | -1.086 | 2.123 | down | PIP4R2B      | Home sapiens phosphatidylinositol-5-phosphate 4-kinase, type II, beta (PIP4R2B), mRNA [NM_008559]  |
| A.24.P178079   | -2.123 | -1.086 | 2.123 | down | WASF3        | Home sapiens WAS protein family, member 3 (WASF3), transcript variant 1, mRNA [NM_008559]  |
| A.23.P147728   | -2.123 | -1.086 | 2.123 | down | SLC3E3       | Home sapiens solute carrier family 38, member E3 (SLC3E3), mRNA [NM_016856]  |
| A.23.P336443   | -2.123 | -1.086 | 2.123 | down | HP22         | Home sapiens histone H2A (HP22), mRNA [NM_001001001]   |
| A.22.P00017285 | -2.122 | -1.086 | 2.122 | down | LOC101927507 | Home sapiens zinc finger protein 347 (ZNF347), transcript variant 1, mRNA [NM_00112614]  |
| A.22.P00004430 | -2.122 | -1.086 | 2.122 | down | LOC101927507 | Home sapiens zinc finger protein 347 (ZNF347), transcript variant 1, mRNA [NM_00112614]  |
| A.23.P365258   | -2.122 | -1.086 | 2.122 | down | ACN9         | Home sapiens cDNA FLJ48345, fig. clone NP283088228 (AK128335)  |
| A.33.P3365000  | -2.122 | -1.085 | 2.122 | down | GP1BB        | Home sapiens ACN9 homolog (S. cerevisiae) (ACN9), mRNA [NM_020188]   |
| A.33.P3333777  | -2.121 | -1.085 | 2.121 | down | GABPB1-AS1   | Home sapiens glyceraldehyde 3-phosphate dehydrogenase (GABPB1-AS1), long non-coding RNA [NM_004007]  |
| A.23.P286527   | -2.121 | -1.085 | 2.121 | down | JFT22        | Home sapiens GABPB1 antisense RNA 1 (GABPB1-AS1), long non-coding RNA [NM_024460]  |
| A.33.P3407364  | -2.121 | -1.085 | 2.121 | down | LOC101927507 | Home sapiens intracellular transport 22 (JFT22), transcript variant 1, mRNA [NM_022777]  |
| A.24.P290876   | -2.121 | -1.085 | 2.121 | down | LOC101927507 | Home sapiens uncharacterized LOC101927507 (LOC101927507), long non-coding RNA [NR_129445]  |
| A.24.P290876   | -2.120 | -1.084 | 2.120 | down | RABL2A       | Home sapiens RAB, member of RAS oncogene family-like 2A (RABL2A), transcript variant 1, mRNA [NM_013412]   |
| A.24.P370970   | -2.120 | -1.084 | 2.120 | down | NSL1         | Home sapiens NSL1, MIS12 kinetochore complex component (NSL1), transcript variant 1, mRNA [NM_015471]  |
| A.21.P0001124  | -2.120 | -1.084 | 2.120 | down | LOC101929809 | PREDICTED: Home sapiens uncharacterized LOC101929809 (LOC101929809), mRNA [XR_246317]  |
| A.23.P300861   | -2.120 | -1.084 | 2.120 | down | SYNE1        | Home sapiens spectrin repeat containing nuclear envelope 1 (SYNE1), transcript variant 1, mRNA [NM_182961]   |
| A.33.P3396807  | -2.120 | -1.084 | 2.120 | down | UGDH         | Home sapiens UDP-glucose 6-dehydrogenase (UGDH), transcript variant 1, mRNA [NM_003339]  |
| A.21.P0013760  | -2.119 | -1.084 | 2.119 | down | CHTF8        | Home sapiens CTF8, chromosome transmission fidelity factor B homolog (S. cerevisiae) (CHTF8), transcript variant 1, mRNA [NM_001038600]                |
| A.22.P0011719  | -2.119 | -1.083 | 2.119 | down | NSP19-1      | ORF323P1 (ORF323P1) SH3 domain binding protein (ORF323), part (45) [LOC2039338]  |
| A.23.P361733   | -2.119 | -1.083 | 2.119 | down | FAM178A      | Home sapiens protein tyrosine phosphatase (FAM178A), transcript variant 1, mRNA [NM_000267314]   |
| A.32.P36129    | -2.118 | -1.083 | 2.118 | down | LOC1029201-3 | Home sapiens long intergenic non-protein coding RNA 291-3 (LINC029201-3), long non-coding RNA [NR_026572]  |
| A.21.P00124473 | -2.118 | -1.082 | 2.118 | down | VEZF1        | Home sapiens vascular endothelial zinc finger 1 (VEZF1), mRNA [NM_007146]  |
| A.22.P0016218  | -2.116 | -1.081 | 2.116 | down | ZNF789       | Home sapiens zinc finger protein 789 (ZNF789), mRNA [NM_178972]  |
| A.22.P00013251 | -2.115 | -1.080 | 2.115 | down | LOC101927507 | C0008659 Human CD34+ ES1, from primary hematopoietic stem-progenitor cells, Home sapiens cDNA 3, mRNA sequence [GI442709]                              |
| A.23.P202888   | -2.114 | -1.080 | 2.114 | down | AASDHPPT     | Home sapiens aminoimidate-somamide dehydrogenase-phosphoribosyl transferase (AASDHPPT), mRNA [NM_015423]   |
| A.32.P18732    | -2.113 | -1.079 | 2.113 | down | FAM178B      | Home sapiens family with sequence similarity 76, member B (FAM178B), mRNA [NM_144864]  |



|                |      |       |        |       |                      |   |
|----------------|------|-------|--------|-------|----------------------|---|
| A.24.P174803   | down | 2.079 | -1.036 | 2.079 | AMT                  | Home sapiens aminomethyltransferase (AMT), transcript variant 1, mRNA [NM_000481]   |
| A.33.P2402454  | down | 2.078 | -1.035 | 2.078 | HAS3                 | Home sapiens hyaluronan synthase 3 (HAS3), transcript variant 2, mRNA [NM_138612]   |
| A.21.P0001116  | down | 2.077 | -1.035 | 2.077 | MIDI1                | Home sapiens midline 1 (MIDI1), transcript variant 6, mRNA [NM_001193278]   |
| A.23.P259012   | down | 2.077 | -1.035 | 2.077 | BAP1                 | Home sapiens BAP1 associated protein-1 (ubiquitin carboxy-terminal hydrolase) (BAP1), mRNA [NM_004616]                                  |
| A.23.P259175   | down | 2.077 | -1.035 | 2.077 | STIS1A1              | Home sapiens ST18 alpha-N-acetylneuraminidase alpha-2-B-subunit/transferase 1 (STIS1A1), mRNA [NM_003034]                               |
| A.23.P49382    | down | 2.076 | -1.034 | 2.076 | CDC651               | Home sapiens coiled-coil domain containing 51 (CDC651), transcript variant 2, mRNA [NM_024661]  |
| A.23.P23966    | down | 2.076 | -1.034 | 2.076 | ZNF488               | Home sapiens zinc finger protein 488 (ZNF488), mRNA [NM_153034]   |
| A.21.P0001705  | down | 2.076 | -1.033 | 2.076 | LINC00680            | Home sapiens long intergenic non-protein coding RNA 88 (LINC00680), transcript variant 8, long non-coding RNA [NR_111952]               |
| A.33.P234756   | down | 2.075 | -1.033 | 2.075 | UBAP2                | Home sapiens UBAP antisense RNA 1 (head to head) (UBAP-AS1), long non-coding RNA [NR_015438]  |
| A.33.P236077   | down | 2.075 | -1.033 | 2.075 | LINC00847            | Home sapiens long intergenic non-protein coding RNA 397 (LINC00847), transcript variant 1, long non-coding RNA [NR_027163]              |
| A.23.P235812   | down | 2.074 | -1.032 | 2.074 | MGSS1                | Home sapiens major sperm protein 282 (ZNF364), transcript variant 1, mRNA [NM_144978]   |
| A.33.P2400441  | down | 2.074 | -1.032 | 2.074 | LINC00222-1          | LINC00222-1, long non-coding RNA [ENST0000029212]   |
| A.33.P233081   | down | 2.074 | -1.032 | 2.074 | PRAMEF5              | Home sapiens PRAME family member 5 (PRAMEF5), mRNA [NM_001013407]   |
| A.33.P482702   | down | 2.073 | -1.031 | 2.073 | NFATC3               | Home sapiens nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3 (NFATC3), transcript variant 2, mRNA [NM_004455] |
| A.23.P171921   | down | 2.072 | -1.031 | 2.072 | WWOX                 | Home sapiens WW domain containing oxidoreductase WWOX3, transcript variant 1, mRNA [NM_016373]  |
| A.33.P242031   | down | 2.072 | -1.031 | 2.072 | PGM1                 | Home sapiens phosphoglucomutase 1 (PGM1), transcript variant 1, mRNA [NM_002633]  |
| A.33.P2348887  | down | 2.072 | -1.031 | 2.072 | PBX3                 | Home sapiens pre-B-cell leukemia homeobox 3 (PBX3), transcript variant 1, mRNA [NM_006195]  |
| A.24.P186372   | down | 2.071 | -1.030 | 2.071 | AGBL5                | Home sapiens AGBL5 (for 4)-monophosphatase 2 (IMPA2), mRNA [NM_014214]  |
| A.21.P182142   | down | 2.070 | -1.030 | 2.070 | TSKU                 | Home sapiens ATP/GTP binding protein-like 5 (AGBL5), transcript variant 3, mRNA [NM_001033507]  |
| A.21.P0011566  | down | 2.069 | -1.049 | 2.069 | XLOC12_005852        | Home sapiens tsukushi, small leucine rich proteoglycan (TSKU), transcript variant 1, mRNA [NM_011516]                                   |
| A.33.P2365022  | down | 2.069 | -1.049 | 2.069 | MAPK3BP2             | BROAD Institute lincRNA XLOC 12_005852, lincRNA [XLOC12_005852]   |
| A.23.P241473   | down | 2.069 | -1.048 | 2.069 | ZNF528               | Home sapiens mitogen-activated protein kinase 8 interacting protein 2 (MAPK8IP2), mRNA [NM_012324]                                      |
| A.23.P239233   | down | 2.068 | -1.048 | 2.068 | ENX2                 | Home sapiens zinc finger protein 528 (ZNF528), mRNA [NM_029229]   |
| A.23.P101388   | down | 2.068 | -1.048 | 2.068 | ZNF324               | Home sapiens cytochrome b5b1 family member A3 (CYB5B3), transcript variant 2, mRNA [NM_153611]  |
| A.23.P2423079  | down | 2.068 | -1.048 | 2.068 | PALD1                | Home sapiens chondrase, di-N-acetylglucosaminidase 2 (ENX2), transcript variant 2, mRNA [NM_192114]                                     |
| A.23.P2351005  | down | 2.067 | -1.048 | 2.067 | STK38                | Home sapiens mitogen-activated protein kinase 36 (STK38), transcript variant 1, mRNA [NM_004193]  |
| A.19.P00027884 | down | 2.067 | -1.048 | 2.067 | NFB                  | Home sapiens serine/threonine kinase 36 (STK38), transcript variant 3, mRNA [NM_001166109]  |
| A.23.P139471   | down | 2.067 | -1.048 | 2.067 | RP26                 | Home sapiens nuclear factor I/B (NFB), transcript variant 3, mRNA [NM_003596]   |
| A.33.P2344252  | down | 2.067 | -1.048 | 2.067 | ATF1                 | Home sapiens uncharacterized LOC101927151 (LOC101927151), transcript variant 1, long non-coding RNA [NR_110887]                         |
| A.24.P242261   | down | 2.067 | -1.047 | 2.067 | HSZS11               | Home sapiens ribosomal protein S26 (RP26), mRNA [NM_00101029]   |
| A.21.P0010575  | down | 2.066 | -1.047 | 2.066 | GRADD                | Home sapiens activating transcription factor 1 (ATF1), mRNA [NM_005177]   |
| A.23.P16354    | down | 2.065 | -1.046 | 2.065 | ZNF382               | Home sapiens heparan sulfate 2-O-sulfotransferase 1 (HSZS11), transcript variant 1, mRNA [NM_012282]                                    |
| A.33.P219287   | down | 2.065 | -1.046 | 2.065 | EY42                 | Home sapiens CASP2 and HIPK1 domain containing adaptor with death domain (GRADD), mRNA [NM_008805]                                      |
| A.23.P24392    | down | 2.063 | -1.045 | 2.063 | UBR4A                | Home sapiens EYA transcriptional coactivator and phosphatase 2 (EY42), transcript variant 1, mRNA [NM_009244]                           |
| A.33.P234386   | down | 2.063 | -1.045 | 2.063 | UBR4B                | Home sapiens acidic acid binding, Jr-like lectin 8 (SIGLEC8), transcript variant 1, mRNA [NM_007245]                                    |
| A.33.P234384   | down | 2.063 | -1.045 | 2.063 | UBR4C                | Home sapiens alpha 4s (UBR4A), transcript variant 1, mRNA [NM_008000]   |
| A.33.P234383   | down | 2.063 | -1.045 | 2.063 | UBR4D                | Home sapiens ubiquitin-proteasome III synthase (UBR4), transcript variant 1, mRNA [NM_000379]   |
| A.33.P234382   | down | 2.063 | -1.045 | 2.063 | UBR4E                | Home sapiens ubiquitin-proteasome III synthase (UBR4), transcript variant 2, mRNA [NM_153213]   |
| A.23.P234381   | down | 2.062 | -1.044 | 2.062 | GLX2                 | Home sapiens guanine nucleotide binding protein 19 (GABRA4), transcript variant 1, mRNA [NM_024651]                                     |
| A.23.P234380   | down | 2.062 | -1.044 | 2.062 | GLX1                 | Home sapiens guanine nucleotide binding protein 19 (GABRA4), transcript variant 2, mRNA [NM_024651]                                     |
| A.23.P234379   | down | 2.062 | -1.044 | 2.062 | GLX3                 | Home sapiens guanine nucleotide binding protein 19 (GABRA4), transcript variant 3, mRNA [NM_024651]                                     |
| A.23.P234378   | down | 2.062 | -1.044 | 2.062 | GLX4                 | Home sapiens guanine nucleotide binding protein 19 (GABRA4), transcript variant 4, mRNA [NM_024651]                                     |
| A.23.P234377   | down | 2.062 | -1.044 | 2.062 | GLX5                 | Home sapiens guanine nucleotide binding protein 19 (GABRA4), transcript variant 5, mRNA [NM_024651]                                     |
| A.23.P234376   | down | 2.062 | -1.044 | 2.062 | GLX6                 | Home sapiens zinc finger protein 195 (ZNF195), transcript variant 3, mRNA [NM_007192]   |
| A.23.P234375   | down | 2.062 | -1.044 | 2.062 | ZBTB46               | Home sapiens zinc finger and ETS domain containing 46 (ZBTB46), mRNA [NM_025224]  |
| A.23.P234374   | down | 2.062 | -1.044 | 2.062 | PALD                 | Home sapiens endo/exonuclease 5-3, endonuclease G-like (EXOG), transcript variant 1, mRNA [NM_005107]                                   |
| A.23.P234373   | down | 2.062 | -1.042 | 2.062 | PALD                 | Home sapiens palladin, cytoskeletal associated protein (PALD1), transcript variant 2, mRNA [NM_016881]                                  |
| A.21.P0005817  | down | 2.060 | -1.042 | 2.060 | INC-NAZSYN1-1        | AGENCOURT 7594107 NIH-MGC 70 Home sapiens cDNA clone IMAGE6021008 5, mRNA sequence [E023382]  |
| A.33.P2300975  | down | 2.057 | -1.041 | 2.057 | HOKCA                | Home sapiens homeobox C4 (HOKCA), transcript variant 1, mRNA [NM_014620]  |
| A.23.P259141   | down | 2.057 | -1.041 | 2.057 | SATB1                | Home sapiens SATB homeobox 1 (SATB1), transcript variant 1, mRNA [NM_002971]  |
| A.24.P202487   | down | 2.057 | -1.040 | 2.057 | TWSG1                | Home sapiens twisted gastrulation BMP signaling modulator 1 (TWSG1), mRNA [NM_020648]   |
| A.33.P3427102  | down | 2.057 | -1.040 | 2.057 | TTL                  | Home sapiens tubulin tyrosine ligase (TTL), mRNA [NM_153712]  |
| A.23.P23958    | down | 2.056 | -1.040 | 2.056 | ZFP1                 | Home sapiens ZFP1 zinc finger protein (ZFP1), mRNA [NM_153888]  |
| A.33.P2376287  | down | 2.056 | -1.040 | 2.056 | NR3C1                | Home sapiens nuclear receptor subfamily 3 group C member 1 (glucocorticoid receptor) (NR3C1), transcript variant 5, mRNA [NM_00118077]  |
| A.23.P131417   | down | 2.056 | -1.040 | 2.056 | ZBTB24               | Home sapiens zinc finger and ETS domain containing 24 (ZBTB24), transcript variant 1, mRNA [NM_014797]                                  |
| A.23.P0012447  | down | 2.056 | -1.040 | 2.056 | INC-PRPF18-2         | LINC00182A, lincRNA [inc-PRPF18-2]  |
| A.23.P234192   | down | 2.056 | -1.040 | 2.056 | MTDC1                | Home sapiens nuclear receptor subfamily 3 group C member 1 (glucocorticoid receptor) (NR3C1), transcript variant 1, mRNA [NM_014797]    |
| A.33.P2325110  | down | 2.055 | -1.039 | 2.055 | SOX13                | Home sapiens K1 homology domain containing 1 (MTDC1), transcript variant 2, mRNA [NM_026568]  |
| A.24.P18817    | down | 2.055 | -1.039 | 2.055 | TRMT1L               | Home sapiens SRX (sex determining region Y)-box 13 (SOX13), mRNA [NM_009688]  |
| A.24.P2307855  | down | 2.055 | -1.039 | 2.055 | SIKE1                | Home sapiens RNA methyltransferase 1 homolog (S. cerevisiae)-like (TRMT1L), transcript variant 1, mRNA [NM_038834]                      |
| A.21.P0002289  | down | 2.055 | -1.039 | 2.055 | INC-PRP11-43922-1-10 | LINC00182A, lincRNA [inc-PRP11-43922-1-10]  |
| A.23.P236609   | down | 2.054 | -1.039 | 2.054 | ZXDC                 | Home sapiens suppressor of KIBKE1 (SIKE1), transcript variant 1, mRNA [NM_001102386]  |
| A.23.P236276   | down | 2.054 | -1.039 | 2.054 | SLOC3A1              | Home sapiens centromere protein 164kDa (CEP164), transcript variant 1, mRNA [NM_014956]   |
| A.21.P0012252  | down | 2.054 | -1.039 | 2.054 | INC-PRR1BL-2         | Home sapiens ZKD family zinc finger C (ZXDC), transcript variant 1, mRNA [NM_025112]  |
| A.22.P00012444 | down | 2.054 | -1.039 | 2.054 | INC-PRR1BL-2         | Home sapiens sulfate carrier organic anion transporter family member 3A1 (SLOC3A1), transcript variant 1, mRNA [NM_013272]              |
| A.23.P00015730 | down | 2.053 | -1.038 | 2.053 | SWZ12                | tubulin, alpha 3g, pseudogene [Source:HGNC Symbol;Acc:HGNC:44098] [ENST00000410028]   |
| A.23.P00021933 | down | 2.053 | -1.038 | 2.053 | P4H42                | Home sapiens splicing factor 3a, subunit 2, 68kDa, mRNA (cDNA clone IMAGE-157669), [BC041783]   |
| A.23.P48642    | down | 2.053 | -1.038 | 2.053 | TTYH2                | Home sapiens seizure threshold 2 homolog (mouse) (SZT2), mRNA [NM_0115284]  |
| A.23.P2315024  | down | 2.052 | -1.037 | 2.052 | URRC1                | Home sapiens prolyl 4-hydroxylase, alpha polypeptide II (P4H42), transcript variant 1, mRNA [NM_004169]                                 |
| A.23.P2315023  | down | 2.052 | -1.037 | 2.052 | SP140L               | Home sapiens leucine rich repeat containing 1 (URRC1), mRNA [NM_010214]   |
| A.23.P2315022  | down | 2.052 | -1.037 | 2.052 | SP140M               | Home sapiens SP140 nuclear body protein-like (SP140L), mRNA [NM_138402]   |
| A.23.P2315021  | down | 2.052 | -1.037 | 2.052 | SP140N               | Home sapiens WD repeat domain 41 (WD481), mRNA [NM_010208]  |
| A.33.P236321   | down | 2.051 | -1.037 | 2.051 | INC-PRPF18-2         | Home sapiens AT12p2, transcript variant 1, lincRNA [inc-PRPF18-2]   |
| A.33.P236320   | down | 2.051 | -1.037 | 2.051 | INC-PRPF18-2         | Home sapiens AT12p2, transcript variant 2, lincRNA [inc-PRPF18-2]   |
| A.23.P104482   | down | 2.051 | -1.037 | 2.051 | ZNF211               | Home sapiens zinc finger protein 211 (ZNF211), transcript variant 1, mRNA [NM_009892]   |
| A.23.P2368117  | down | 2.050 | -1.036 | 2.050 | TRMT1                | Home sapiens zinc finger protein 211 (ZNF211), transcript variant 2, mRNA [NM_108855]   |
| A.23.P131713   | down | 2.050 | -1.036 | 2.050 | TRMT1B               | Home sapiens zinc finger protein 211 (ZNF211), transcript variant 3, mRNA [NM_002033]   |
| A.19.P00321089 | down | 2.050 | -1.035 | 2.050 | LINC000863           | Home sapiens transmembrane protein 733 (TMEM733), transcript variant 1, mRNA [NM_182282]  |
| A.24.P188426   | down | 2.049 | -1.035 | 2.049 | APOM                 | Home sapiens translation associated membrane protein 2 (TRAM2), mRNA [NM_012298]  |
|                |      |       |        |       |                      | long intergenic non-protein coding RNA 963 [Source:HGNC Symbol;Acc:HGNC:48716] [ENST00000419300]  |

|                |        |       |                 |  |
|----------------|--------|-------|-----------------|--|
| A.23.P149206   | -2.049 | 2.049 | B4GAL12         | Home sapiens UDP-Galactose 4-epimerase, polypeptide 2 (B4GALT2), transcript variant 2, mRNA [NM_003780]  |
| A.33.P226444   | -2.049 | 2.049 | MRF525          | Home sapiens mitochondrial ribosomal protein S25 (MRP525), mRNA [NM_022477]  |
| A.33.P3321540  | -1.035 | 2.049 | IFNAR2          | Home sapiens interferon (alpha, beta and omega) receptor 2 (IFNAR2), transcript variant 4, mRNA [NM_00874]   |
| A.22.P00008379 | -2.047 | 2.047 |                 | long interspersed non-protein coding RNA 1184 (SourceHGNC Symbol:AccHGNC:49885) [ENST000000069251]   |
| A.21.P00001053 | -1.034 | 2.047 | NR3G1           | Home sapiens nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor) (NR3G1), transcript variant 8, mRNA [NM_0104065]                              |
| A.24.P22981    | -2.047 | 2.047 | ZNF258          | Home sapiens zinc finger protein 253 (ZNF253), mRNA [NM_021047]  |
| A.23.P21162    | -1.032 | 2.045 | TCTEXD2         | Home sapiens Tctex1 domain containing 2 (TCTEXD2), mRNA [NM_152773]  |
| A.23.P306181   | -1.032 | 2.045 | ACADM           | Home sapiens acyl-CoA dehydrogenase, C-4 to C-12 straight chain (ACADM), transcript variant 1, mRNA [NM_000016]  |
| A.23.P232528   | -2.044 | 2.044 | P2AP3           | Home sapiens end-GPI attachment to proteins 3 (P2AP3), transcript variant 1, mRNA [NM_033419]  |
| A.23.P13300    | -1.031 | 2.044 | C22D29          | Home sapiens coiled-coil domain containing 29 (C22D29), mRNA [NM_010230]   |
| A.23.P306101   | -1.031 | 2.044 | GLT3B           | Home sapiens glutamate transporter 3 (GLT3B), transcript variant 1, mRNA [NM_00219]  |
| A.22.P0004051  | -1.031 | 2.044 | MORC2-AS1       | Home sapiens MORC2 nuclear RNA 1 (MORC2-AS1), long non-coding RNA [NR_026292]  |
| A.32.P122183   | -1.031 | 2.043 | MORC2-AS1       | Home sapiens MORC2 nuclear RNA, C/D box 22 (SNOR22), small nucleolar RNA [NR_000088]   |
| A.21.P0000268  | -1.031 | 2.043 | SNOR22          | Home sapiens subchromatin-associated protein DNF258881420 (DNF258881420), non-coding RNA [NR_002188]   |
| A.23.P443368   | -1.031 | 2.043 | PIGV            | Home sapiens spermatid/interstitial stem cell-specific protein, class W (PIGW), mRNA [NM_173517]   |
| A.24.P242275   | -2.042 | 2.042 | PTMA            | Home sapiens prothymosin, alpha (PTMA), transcript variant 2, mRNA [NM_002823]   |
| A.24.P00008719 | -2.042 | 2.042 | ALBP_HUMAN      | Home sapiens alpha 1, subfamily SX, sequence contamination warning, entry, partial (14%) [CH2523718]   |
| A.22.P201173   | -1.030 | 2.041 | AMMECR1         | Home sapiens Alport syndrome, mental retardation, midface hypoplasia and dilated aortic chromosomal region, gene 1 (AMMECR1), transcript variant 1, mRNA [NM_024800] |
| A.32.P201173   | -2.041 | 2.041 | NEK11           | Home sapiens NIMA-related kinase 11 (NEK11), transcript variant 1, mRNA [NM_026556]  |
| A.23.P0001435  | -2.041 | 2.041 | GSPBP           | Home sapiens GSPBP binding protein (GSPBP), transcript variant 1, mRNA [NM_024408]   |
| A.23.P00004317 | -1.029 | 2.040 | PSMD5-AS1       | Home sapiens PSMD5 antisense RNA 1 (head to head) (PSMD5-AS1), long non-coding RNA [NR_024408]   |
| A.33.P327896   | -2.040 | 2.040 | PRKAGB          | Home sapiens protein kinase, cAMP-dependent, catalytic, beta (PRKAGB), transcript variant 7, mRNA [NM_01242860]  |
| A.23.P83139    | -1.028 | 2.040 | RHL9            | Home sapiens leish-like family member 9 (RHL9), mRNA [NM_018847]   |
| A.23.P43038    | -2.039 | 2.039 | PH11            | Home sapiens prolyl-4-hydroxylase 1 (PH11), transcript variant 1, mRNA [NM_022938]   |
| A.24.P291888   | -1.027 | 2.038 | MTAP            | Home sapiens methylthioadenosine phosphorylase (MTAP), mRNA [NM_002451]  |
| A.23.P21252    | -1.027 | 2.038 | TBL1XN1         | Home sapiens transmembrane protein 1X (tbl1xn1), transcript variant 1, mRNA [NM_024655]  |
| A.23.P00002549 | -1.027 | 2.038 | TBL1XN1         | Home sapiens transmembrane protein 1X (tbl1xn1), transcript variant 2, mRNA [NM_024655]  |
| A.22.P00002549 | -1.028 | 2.037 | FOXP2-AS1       | Home sapiens FOXP2 antisense RNA 1 (head to head) (FOXP2-AS1), long non-coding RNA [NR_02229]  |
| A.32.P161103   | -1.028 | 2.037 | FECH            | Home sapiens ferrochelatase (FECH), transcript variant 1, mRNA [NM_00102915]   |
| A.22.P00006865 | -2.036 | 2.036 | PRKCG-AS1       | Home sapiens PRKCG antisense RNA 1 (head to head) (ZNF582-AS1), transcript variant 1, long non-coding RNA [NR_036502]  |
| A.31.P0000730  | -2.036 | 2.036 | ZNF582-AS1      | Home sapiens ZNF582 antisense RNA 1 (head to head) (ZNF582-AS1), transcript variant 3, long non-coding RNA [NR_037161]   |
| A.33.P3292840  | -2.036 | 2.036 | G11orf49        | Home sapiens chromosome 11 open reading frame 49 (G11orf49), transcript variant 4, mRNA [NM_001003678]   |
| A.32.P3292840  | -1.026 | 2.036 | YTHDC1          | Home sapiens YTH domain containing 1 (YTHDC1), transcript variant 4, mRNA [NM_001003678]   |
| A.33.P3484875  | -2.035 | 2.035 | inc-A016745.1-2 | Home sapiens cDNA FL38984.1, clone FRA-CH2013450, [AK093803]   |
| A.21.P00000556 | -2.035 | 2.035 | UNC200B83       | Home sapiens centromere protein, coding RNA 883 (UNC200B83), transcript variant 1, long non-coding RNA [NR_028301]   |
| A.21.P27483    | -2.035 | 2.035 | GE1N2           | Home sapiens centromere, EF-hand protein, 2 (GE1N2), mRNA [NM_004344]  |
| A.21.P00011695 | -1.025 | 2.035 | AMZP1           | Home sapiens archaebacterial family metalloproteinase 2, pseudogene 1 (AMZP1), non-coding RNA [NR_024903]  |
| A.23.P38330    | -2.034 | 2.034 | BRIC3           | Home sapiens baculoviral IAP repeat containing 3 (BRIC3), transcript variant 1, mRNA [NM_0011165]  |
| A.23.P294175   | -1.024 | 2.034 | LP4F5           | Home sapiens lysophosphatidic acid receptor 5 (LP4F5), transcript variant 1, mRNA [NM_020400]  |
| A.32.P17485    | -1.024 | 2.034 | SATB2           | Home sapiens SATB homeobox 2 (SATB2), transcript variant 2, mRNA [NM_015265]   |
| A.23.P292345   | -2.033 | 2.033 | ADO             | Home sapiens 2-aminoethanol (cysteine) dioxygenase (ADO), mRNA [NM_039804]   |
| A.23.P211252   | -1.023 | 2.033 | USS             | Home sapiens uracil synthase (2'-oxodoluidine-1-iminoethyl cyclase) (USS), transcript variant 2, mRNA [NM_001004488]   |
| A.24.P10139    | -1.022 | 2.033 | TRNA            | Home sapiens transfer RNA, 2'-oxodoluidine-1-iminoethyl cyclase (USS), transcript variant 1, mRNA [NM_002340]  |
| A.24.P1612     | -1.022 | 2.033 | UNC200A68       | Home sapiens zinc finger protein, domain 2, mRNA [NM_001004488]  |
| A.33.P323594   | -2.029 | 2.029 | LOC100507547    | Home sapiens non-coding LOC100507547 (LOC100507547), transcript variant 1, long non-coding RNA [NR_027168]   |
| A.23.P256368   | -2.028 | 2.028 | MANBA           | Home sapiens mannosidase, beta A, vesicular (MANBA), mRNA [NM_005068]  |
| A.23.P44240    | -1.020 | 2.028 | LOC230183       | Home sapiens uncharacterized LOC230183 (LOC230183), mRNA [NM_001258332]  |
| A.23.P3203689  | -2.028 | 2.028 | EMW2            | Home sapiens embyonectin homeobox 2 (EMW2), transcript variant 1, mRNA [NM_004038]   |
| A.23.P13183    | -2.028 | 2.028 | TMEM161A        | Home sapiens transmembrane protein 161A (TMEM161A), transcript variant 1, mRNA [NM_017814]   |
| A.33.P251963   | -2.027 | 2.027 | RNF125          | Home sapiens excitasin, glycosyltransferase 2 (EXT2), transcript variant 1, mRNA [NM_009401]   |
| A.23.P103433   | -2.027 | 2.027 | OSGP1           | Home sapiens ring finger protein 125, E3 ubiquitin protein ligase (RNF125), mRNA [NM_017831]   |
| A.21.P0013832  | -2.027 | 2.027 |                 | Home sapiens organic solute carrier partner 1 (OSGP1), transcript variant 1, mRNA [NM_145047]  |
| A.23.P305140   | -2.026 | 2.026 | G10orf52        | Home sapiens chromosome 10 open reading frame 52 (G10orf52), transcript variant 2, mRNA [NM_144591]  |
| A.23.P202769   | -2.026 | 2.026 | DNAJC4          | Home sapiens Dnaj (Hsp40) homolog, subfamily C, member 4 (DNAJC4), mRNA [NM_005528]  |
| A.23.P16071    | -2.026 | 2.026 | B3GNT4          | Home sapiens UDP-GlcNAc 6-epimerase 4 (B3GNT4), transcript variant 1, mRNA [NM_030765]   |
| A.23.P17395    | -2.025 | 2.025 | JRK             | Home sapiens F-box and leucine-rich repeat protein 2 (FBXL2), transcript variant 1, mRNA [NM_012157]   |
| A.23.P308159   | -2.024 | 2.024 | AMEF1           | Home sapiens ABC membrane recruitment protein 1 (AMEF1), mRNA [NM_182424]  |
| A.31.P0000565  | -2.023 | 2.023 | MYO10           | Home sapiens myosin, class I, non-muscle, type 10 (MYO10), transcript variant 2, mRNA [NM_003770]  |
| A.33.P2265113  | -2.022 | 2.022 | GUSBP1-3        | Home sapiens transcription factor, basic helix-loop-helix protein 3 (GUSBP1-3), mRNA [NM_003770]   |
| A.23.P43110    | -2.022 | 2.022 | ZHX1            | Home sapiens zinc finger and homeobox 1 (ZHX1), transcript variant 1, mRNA [NM_001012826]  |
| A.23.P38140    | -2.021 | 2.021 | GDC92           | Home sapiens coiled-coil domain containing 92 (GDC92), mRNA [NM_026140]  |
| A.24.P38147    | -2.021 | 2.021 | NEBL            | Home sapiens nebulin (NEBL), transcript variant 1, mRNA [NM_006393]  |
| A.23.P408376   | -2.021 | 2.021 | HSP12A          | Home sapiens heat shock 70kDa protein 12A (HSP12A), mRNA [NM_025015]   |
| A.23.P115366   | -1.014 | 2.020 | GMFK1           | Home sapiens cytidine monophosphate (UMP-GMP) kinase 1, cytosolic (GMFK1), transcript variant 1, mRNA [NM_016308]  |
| A.24.P64167    | -2.019 | 2.019 | PTGS1           | Home sapiens prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase) (PTGS1), transcript variant 1, mRNA [NM_000882]                   |
| A.24.P232896   | -2.019 | 2.019 | SMARCD1         | Home sapiens SWI/SNF-related, matrix associated, actin dependent regulator of chromatin, subfamily 4, member 1 (SMARCD1), transcript variant 2, mRNA [NM_000882]     |
| A.19.P0031569  | -2.018 | 2.018 | inc-D2T1-1      | Home sapiens cDNA FL33447.1, clone BRAMY1000698, [AK090166]  |
| A.21.P0005166  | -2.018 | 2.018 | inc-SUFTPH-1    | UNC93B1-like non-coding RNA 1 (SUFTPH-1), lincRNA [linc-SUFTPH-1]  |
| A.33.P3411427  | -2.018 | 2.018 | ZNF837          | Home sapiens zinc finger protein 837 (ZNF837), transcript variant 2, mRNA [NM_138486]  |
| A.23.P000299   | -2.017 | 2.017 | SNORA19         | Home sapiens small nucleolar RNA, H/ACA box 19 (SNORA19), small nucleolar RNA [NR_029177]  |
| A.23.P29538    | -2.017 | 2.017 | RNF219          | Home sapiens ring finger protein 219 (RNF219), mRNA [NM_024548]  |
| A.22.P0010971  | -2.016 | 2.016 | inc-NRP2-1      | UNC93B1-like non-coding RNA 2 (NRP2-1), lincRNA [linc-NRP2-1]  |
| A.23.P13350    | -2.016 | 2.016 | OPD1            | Home sapiens Oribacterium syndrome critical region gene 8 (OPD1), mRNA [NM_032571]   |
| A.23.P164525   | -2.015 | 2.015 | TGCE1           | Home sapiens family with sequence similarity 154, member A (SU1) N-terminal central domain containing 1 (TGCE1), transcript variant 1, mRNA [NM_014218]              |
| A.23.P248284   | -2.014 | 2.014 | TCF5            | Home sapiens zinc finger protein 684 (ZNF684), mRNA [NM_175468]  |
| A.23.P441484   | -2.014 | 2.014 | ZNF584          | Home sapiens zinc finger protein 584 (ZNF584), mRNA [NM_175468]  |
| A.21.P0013248  | -2.014 | 2.014 | XLOC 02.013485  | BROAD Institute lincRNA XLOC 02.013485, lincRNA [lincRNA.XLOC02.013485]  |
| A.23.P34176    | -2.014 | 2.014 | WWC3            | Home sapiens WWC family member 3 (WWC3), mRNA [NM_015691]  |
| A.33.P348465   | -2.013 | 2.013 |                 | neurotactin subfamily 3 [SourceHGNC Symbol:AccHGNC:40004] [ENST00000420638]  |
| A.33.P3217480  | -2.013 | 2.013 | HIRP3           | Home sapiens HSPA interacting protein 3 (HIRP3), transcript variant 1, mRNA [NM_003069]  |

|                |        |        |       |      |               |   |
|----------------|--------|--------|-------|------|---------------|---|
| A_33_P0819452  | -2.012 | -1.009 | 2.012 | down | ITGA9-AS1     | Home sapiens ITGA9 antisense RNA 1 (ITGA9-AS1), transcript variant 2, long non-coding RNA [NR_110552]   |
| A_23_P2376874  | -2.012 | -1.009 | 2.012 | down | MGA           | Home sapiens MGA, MAX dimerization protein (MGA), transcript variant 1, mRNA [NM_001064273]   |
| A_23_P2376877  | -2.012 | -1.009 | 2.012 | down | GOPC          | Home sapiens golgi-associated PDZ and coiled-coil motif containing (GOPC), transcript variant 1, mRNA [NM_020389]   |
| A_23_P25191816 | -2.012 | -1.008 | 2.012 | down | RMND1         | Home sapiens regulator of microtubule dynamics 1 (RMND1), transcript variant 1, mRNA [NM_016893]  |
| A_22_P00001617 | -2.012 | -1.008 | 2.012 | down | ZBED1         | Home sapiens zinc finger, BED-type containing 1 (ZBED1), transcript variant 3, mRNA [NM_001171135]  |
| A_24_P1343149  | -2.012 | -1.008 | 2.012 | down | ADNP          | Home sapiens activity-dependent neuroprotector homeobox (ADNP), transcript variant 3, mRNA [NM_001282531]   |
| A_23_P217778   | -2.012 | -1.008 | 2.012 | down | MSL3          | Home sapiens male-specific lethal 3 homolog (Drosophila) (MSL3), transcript variant 1, mRNA [NM_0078629]  |
| A_23_P369246   | -2.011 | -1.008 | 2.011 | down | ZSCAN25       | Home sapiens zinc finger and SCAN domain containing 25 (ZSCAN25), mRNA [NM_001481193]   |
| A_23_P347100   | -2.011 | -1.008 | 2.011 | down | ZNF484        | Home sapiens zinc finger protein 484 (ZNF484), transcript variant 2, mRNA [NM_001007101]  |
| A_23_P164838   | -2.010 | -1.007 | 2.010 | down | TM6SF2AS      | Home sapiens transmembrane protein 265 (TM6SF2AS), mRNA [NM_0202172]  |
| A_23_P164842   | -2.010 | -1.007 | 2.010 | down | TM6SF2B       | Home sapiens transmembrane protein 265 (TM6SF2B), transcript variant 2, mRNA [NM_0202173]   |
| A_24_P041932   | -2.010 | -1.007 | 2.010 | down | EYSB1         | Home sapiens EYSB1, EYS domain containing 1 (EYSB1), transcript variant 1, mRNA [NM_139274]   |
| A_24_P727833   | -2.010 | -1.007 | 2.010 | down | LAG3E3        | Home sapiens LAG3E3, LAG3 domain containing 3 (LAG3E3), mRNA [NM_005014]  |
| A_33_P3381681  | -2.009 | -1.007 | 2.009 | down | VMA21         | Home sapiens VMA21, vacuolar H <sup>+</sup> -ATPase homolog (S. cerevisiae) (VMA21), mRNA [NM_001001788]  |
| A_23_P113184   | -2.009 | -1.007 | 2.009 | down | FTO           | Home sapiens fat mass and obesity associated (FTO), mRNA [NM_001080432]   |
| A_23_P463396   | -2.009 | -1.007 | 2.009 | down | HSO17B10      | Home sapiens hydroxysteroid (17-beta) dehydrogenase 10 (HSO17B10), transcript variant 1, mRNA [NM_004433]   |
| A_23_P164838   | -2.009 | -1.007 | 2.009 | down | ZNF419        | Home sapiens zinc finger protein 419 (ZNF419), transcript variant 2, mRNA [NM_0244681]  |
| A_23_P311201   | -2.009 | -1.007 | 2.009 | down | SRSF10        | Home sapiens serine/arginine-rich splicing factor 10 (SRSF10), transcript variant 2, mRNA [NM_054016]   |
| A_24_P67846    | -2.009 | -1.006 | 2.009 | down | NUDT14        | Home sapiens nucleotide diphosphate-linked moiety X-type motif 4 (NUDT14), transcript variant 2, mRNA [NM_190040]   |
| A_22_P00008867 | -2.009 | -1.006 | 2.009 | down | AGRN          | Home sapiens agrin (AGRN), mRNA [NM_198576]   |
| A_23_P123183   | -2.009 | -1.006 | 2.009 | down | ACTR8B        | Home sapiens actin-related protein 3 homolog B (yeast) (ACTR8B), transcript variant 1, mRNA [NM_020445]   |
| A_33_P3383816  | -2.009 | -1.006 | 2.009 | down | LINC00809     | Home sapiens long intergenic non-protein coding RNA 909 (LINC00809), long non-coding RNA [NR_024484]  |
| A_22_P00012788 | -2.008 | -1.006 | 2.008 | down |               |   |
| A_24_P396753   | -2.008 | -1.006 | 2.008 | down | TRIB2         | Home sapiens tribbles pseudokinase 2 (TRIB2), transcript variant 1, mRNA [NM_021843]  |
| A_33_P3719083  | -2.008 | -1.005 | 2.008 | down | CHRFAM7A      | Home sapiens CHRFAM7A (cholinergic receptor, nicotinic, alpha 7, exons 5-10) and FAM7A family with sequence similarity 7A, exons A-E) fusion (CHRFAM7A), transcript variant 1, mRNA [NM_139320] |
| A_23_P502170   | -2.007 | -1.005 | 2.007 | down | DYN2L11       | Home sapiens dyx1c1, cytoskeletal 2, light intermediate chain 1 (DYN2L11), transcript variant 2, mRNA [NM_015522]   |
| A_9_P0031876   | -2.007 | -1.005 | 2.007 | down | UBAP-AS1      | Home sapiens UBAP antisense RNA 1 (head to head) (UBAP-AS1), long non-coding RNA [NR_019438]  |
| A_22_P0000274  | -2.006 | -1.004 | 2.006 | down | SLC39A10      | Home sapiens solute carrier family 39 (zinc to heavy metal) member 10 (SLC39A10), transcript variant 2, mRNA [NM_0203242]   |
| A_22_P0030363  | -2.005 | -1.004 | 2.005 | down | RN442         | Home sapiens RNA 442, ribonucleic acid, alpha polymerase II (RN442), transcript variant 1, mRNA [NM_004199]   |
| A_33_P3283626  | -2.005 | -1.003 | 2.005 | down | RN6C3         | Home sapiens cDNA FL37710 complete cds. (AK538884.4)  |
| A_23_P76359    | -2.004 | -1.003 | 2.004 | down | AGPAT4-T1     | Home sapiens AGPAT4 intronic transcript 1, (non-protein coding) (AGPAT4-T1), long non-coding RNA [NR_024277]  |
| A_24_P001972   | -2.004 | -1.003 | 2.004 | down | C2orf74       | Home sapiens chromosome 2 open reading frame 74 (C2orf74), transcript variant 1, mRNA [NM_001143959]  |
| A_33_P342385   | -2.004 | -1.003 | 2.004 | down | ZNF169        | Home sapiens zinc finger protein 169 (ZNF169), transcript variant 3, mRNA [NM_0011301215]   |
| A_24_P030300   | -2.003 | -1.002 | 2.003 | down | SFKNS5        | Home sapiens spherofusin 5 (SFKNS5), mRNA [NM_144579]   |
| A_33_P3327892  | -2.002 | -1.002 | 2.002 | down | RNF13         | Home sapiens ring finger protein 13 (RNF13), transcript variant 1, mRNA [NM_000386]   |
| A_23_P310811   | -2.002 | -1.002 | 2.002 | down | BLMH          | Home sapiens biometric hydrolase (BLMH), mRNA [NM_000386]   |
| A_21_P0010117  | -2.001 | -1.001 | 2.001 | down | XLOC12_002767 | BROAD Institute lincRNA XLOC12_002767, lincRNA [TCONS:0200095184]   |
| A_33_P3351664  | -2.001 | -1.001 | 2.001 | down | GCDC57        | Home sapiens coiled-coil domain containing 57 (GCDC57), mRNA [NM_198892]  |
| A_23_P307786   | -2.001 | -1.001 | 2.001 | down | HLA-DOB       | Home sapiens major histocompatibility complex, class II, DO beta (HLA-DOB), mRNA [NM_002150]  |
| A_24_P106463   | -2.000 | -1.000 | 2.000 | down | DA22          | Home sapiens ornithine decarboxylase autzyme 2 (DA22), transcript variant 1, mRNA [NM_002527]   |
| A_24_P186888   | -2.000 | -1.000 | 2.000 | down |               | ATP synthase, H+ transporting, mitochondrial Fo complex, subunit C1 (subunit 9) pseudogene 5 [Source:HGNC Symbol;Acc:HGNC:38509] [ENST0000469094]   |
| A_33_P328887   | -2.000 | -1.000 | 2.000 | down | FAM87A        | Home sapiens family with sequence similarity 87, member A (FAM87A), long non-coding RNA [NR_103537]   |

**Supplementary Table S4:**  
**Genes upregulated following CP-690,550 treatment**  
*Sarcoma: GainsSigna\_Varsion\_144 (Alliant\_Tachibana, Inc.)*  
 Moderated *T*-Test, corrected *p*-value cut-off:0.05  
 Fold change cut-off:2.0  
*p*-value computation: Asymtotic  
 Multiple Testing Correction: Benjamini-Hochberg

| Problems       | FO (log) Vs (cut) | Log FO (log) Vs (cut) | FO (cut) (log) Vs (cut) | Regulation (log) Vs (cut) | GeneSymbol     | Description   |
|----------------|-------------------|-----------------------|-------------------------|---------------------------|----------------|---|
| A.23.P24442    | 8.769             | 3.132                 | 8.769                   | up                        | LOR            | Home sapiens boricin (LOR), mRNA [NM_000427]  |
| A.21.P0000771  | 7.887             | 2.989                 | 7.887                   | up                        | lnc-IGFL3-1    | lncRNA [lnc-IGFL3-1], lncRNA [lnc-IGFL3-1]  |
| A.24.P104407   | 6.893             | 2.785                 | 6.893                   | up                        | SYNM           | Home sapiens synemin, intermediate filament protein (SYNM), transcript variant A, mRNA [NM_145728]                          |
| A.24.P51322    | 2.107             | 2.107                 | 6.528                   | up                        | FLG            | Home sapiens flaggrin (FLG), mRNA [NM_002016]   |
| A.32.P287448   | 6.353             | 2.687                 | 6.353                   | up                        | FLG            | Home sapiens flaggrin (FLG), mRNA [NM_002016]   |
| A.23.P06029    | 6.165             | 2.624                 | 6.165                   | up                        | SNTB1          | Home sapiens syntrophin, beta 1 (syntrophin-associated protein A1, 99kDa, basic component 1) (SNTB1), mRNA [NM_021021]      |
| A.33.P326128   | 5.973             | 2.578                 | 5.973                   | up                        | FLG            | Home sapiens flaggrin (FLG), mRNA [NM_002016]   |
| A.33.P339258   | 5.597             | 2.485                 | 5.597                   | up                        | C5orf46        | Home sapiens chromosome 5 open reading frame 46 (C5orf46), mRNA [NM_200866]   |
| A.22.P00015425 | 5.091             | 2.548                 | 5.091                   | up                        | lnc-SRY-2      | lncRNA [lnc-SRY-2], lncRNA [lnc-SRY-2]  |
| A.19.P00231124 | 4.857             | 2.280                 | 4.857                   | up                        | LINC01488      | Home sapiens long intergenic non-protein coding RNA 1488 (LINC01488), transcript variant 1, long non-coding RNA [NR_120841] |
| A.22.P00010154 | 2.937             | 2.714                 | 4.714                   | up                        | SPFH3          | SPFH3 (GDFP38) Mangrovesa transport protein, Mm1, p143, (5S) [162813915]  |
| A.22.P338238   | 4.631             | 2.628                 | 4.631                   | up                        | PAD1           | Home sapiens poly(ADP-ribose) polymerase 1 (PAD1), mRNA [NM_013263]   |
| A.23.P244648   | 4.590             | 2.788                 | 4.590                   | up                        | CH2P           | Home sapiens chromosome 2 protein 2 (CH2P), mRNA [NM_023697]  |
| A.33.P244654   | 4.506             | 2.732                 | 4.506                   | up                        | IRL3           | Home sapiens IGF-like family member 3 (IGFL3), mRNA [NM_207333]   |
| A.19.P00083839 | 4.324             | 2.112                 | 4.324                   | up                        | LOC10038478    | Home sapiens uncharacterized LOC10038478 (LOC10038478), long non-coding RNA [NR_1409783]                                    |
| A.21.P0007566  | 4.324             | 2.111                 | 4.321                   | up                        | LOC101827892   | Home sapiens uncharacterized LOC101827892 (LOC101827892), long non-coding RNA [NR_1100488]                                  |
| A.23.P1912     | 4.317             | 2.110                 | 4.317                   | up                        | ZP1            | Home sapiens zona pellucida glycoprotein 1 (zona receptor) (ZP1), mRNA [NM_207341]  |
| A.33.P3308862  | 4.307             | 2.107                 | 4.307                   | up                        | NUM2B          | Home sapiens NUM family member 2B (NUM2B), mRNA [NM_00178495]   |
| A.22.P00001757 | 4.285             | 2.089                 | 4.285                   | up                        | LOC285629      | Home sapiens uncharacterized LOC285629 (LOC285629), long non-coding RNA [NR_027111]   |
| A.33.P232381   | 4.283             | 2.083                 | 4.283                   | up                        | CPT1C          | Home sapiens carnitine palmitoyltransferase 1C (CPT1C), transcript variant 3, mRNA [NM_001199762]                           |
| A.23.P42709    | 4.191             | 2.087                 | 4.191                   | up                        | SPRR3          | Home sapiens small proline-rich protein 3 (SPRR3), transcript variant 1, mRNA [NM_005416]                                   |
| A.23.P102381   | 4.189             | 2.087                 | 4.189                   | up                        | SLC40A1        | Home sapiens solute carrier family 40 (non-regulated transporter), member 1 (SLC40A1), mRNA [NM_014855]                     |
| A.21.P0000822  | 3.879             | 1.956                 | 3.879                   | up                        | LOC101827787   | Home sapiens uncharacterized LOC101827787 (LOC101827787), long non-coding RNA [NR_125944]                                   |
| A.21.P0005943  | 3.812             | 1.931                 | 3.812                   | up                        | lnc-MATN2-2    | lncRNA [lnc-MATN2-2], lncRNA [lnc-MATN2-2]  |
| A.33.P334748   | 3.762             | 1.912                 | 3.762                   | up                        | SPINK4         | Home sapiens serine peptidase inhibitor, Kazal type 4 (SPINK4), mRNA [NM_014471]  |
| A.23.P171880   | 3.746             | 1.905                 | 3.746                   | up                        | CSGALNACT1     | Home sapiens chondroitin sulfate N-acetylgalactosaminyltransferase 1 (CSGALNACT1), transcript variant 2, mRNA [NM_018371]   |
| A.23.P194835   | 3.734             | 1.901                 | 3.734                   | up                        | LOC1018371     | Home sapiens cDNA clone NT03093458, 5' mRNA, abnrm1, (CA376746)   |
| A.22.P0000825  | 3.732             | 1.899                 | 3.732                   | up                        | LOC1018371     | Home sapiens cDNA clone NT03093458, 5' mRNA, abnrm1, (CA376746)   |
| A.23.P163271   | 3.719             | 1.895                 | 3.719                   | up                        | IGFL3          | Home sapiens IGF-like family member 3 (IGFL3), mRNA [NM_207333]   |
| A.23.P13044    | 3.672             | 1.877                 | 3.672                   | up                        | MMMP10         | Home sapiens metalloproteinase 10 (stromelysin 2) (MMMP10), mRNA [NM_002425]  |
| A.23.P33209    | 3.666             | 1.874                 | 3.666                   | up                        | HSD11B1        | Home sapiens hydroxysteroid (11-beta) dehydrogenase 1 (HSD11B1), transcript variant 2, mRNA [NM_181758]                     |
| A.22.P0000680  | 3.546             | 1.826                 | 3.546                   | up                        | LINC01488      | Home sapiens long intergenic non-protein coding RNA 1488 (LINC01488), transcript variant 1, long non-coding RNA [NR_120841] |
| A.23.P257003   | 3.470             | 1.795                 | 3.470                   | up                        | PGC55          | Home sapiens progamin convertase subfamily/kevin type 5 (PGC55), transcript variant 2, mRNA [NM_008200]                     |
| A.21.P0004314  | 3.344             | 1.742                 | 3.344                   | up                        | lnc-TCOF-1     | lncRNA [lnc-TCOF-1], lncRNA [lnc-TCOF-1]  |
| A.23.P12580    | 1.658             | 1.658                 | 3.156                   | up                        | TME25A         | Home sapiens transmembrane protein 25A (TME25A), transcript variant 1, mRNA [NM_017938]                                     |
| A.22.P00018268 | 3.155             | 1.658                 | 3.155                   | up                        | LOC101828824   | PREDICTED: Home sapiens uncharacterized LOC101828824 (LOC101828824), mRNA [XR_2444607]                                      |
| A.22.P00010714 | 3.132             | 1.647                 | 3.132                   | up                        | LOC10274596    | Home sapiens uncharacterized LOC10274596 (LOC10274596), transcript variant 2, long non-coding RNA [NR_110883]               |
| A.22.P00009791 | 3.057             | 1.612                 | 3.057                   | up                        | lnc-MEG10-1    | lncRNA [lnc-MEG10-1], lncRNA [lnc-MEG10-1]  |
| A.23.P29511    | 2.990             | 1.580                 | 2.990                   | up                        | GDPD3          | Home sapiens glycerophosphodiester phosphodiesterase domain containing 3 (GDPD3), mRNA [NM_024307]                          |
| A.23.P322088   | 2.937             | 1.554                 | 2.937                   | up                        | SPX            | Home sapiens sperm hormone (SPX), mRNA [NM_006752]  |
| A.24.P49106    | 2.925             | 1.949                 | 2.925                   | up                        | TC6L7          | Home sapiens transcription elongation factor A (SII)-like 7 (TC6L7), mRNA [NM_152778]                                       |
| A.33.P307236   | 2.851             | 1.851                 | 2.851                   | up                        | LOC284861      | PREDICTED: Home sapiens uncharacterized LOC284861 (LOC284861), misc RNA [XR_110926]   |
| A.23.P29517    | 2.850             | 1.850                 | 2.850                   | up                        | LOC284861      | PREDICTED: Home sapiens uncharacterized LOC284861 (LOC284861), misc RNA [XR_110926]   |
| A.22.P205137   | 2.842             | 1.518                 | 2.842                   | up                        | LOC284861      | PREDICTED: Home sapiens uncharacterized LOC284861 (LOC284861), misc RNA [XR_110926]   |
| A.22.P00016643 | 2.830             | 1.504                 | 2.830                   | up                        | lnc-TSS42-1    | lncRNA [lnc-TSS42-1], lncRNA [lnc-TSS42-1]  |
| A.33.P3945706  | 2.824             | 1.498                 | 2.824                   | up                        | ORF83L4        | Home sapiens cAMP responsive element binding protein 3-like 4 (ORF83L4), transcript variant 1, mRNA [NM_130888]             |
| A.33.P3921482  | 2.804             | 1.488                 | 2.804                   | up                        | FAM198B        | Home sapiens family with sequence similarity 198, member B (FAM198B), transcript variant 2, mRNA [NM_018613]                |
| A.33.P323916   | 2.776             | 1.473                 | 2.776                   | up                        | SOX6           | Home sapiens SOX family sex determining region Y-box 6 (SOX6), transcript variant 1, mRNA [NM_017598]                       |
| A.22.P31618    | 2.700             | 1.433                 | 2.700                   | up                        | GSR            | Home sapiens glutathione reductase (GSR), transcript variant 1, mRNA [NM_006837]  |
| A.33.P3388193  | 2.679             | 1.422                 | 2.679                   | up                        | PNLIPRP3       | Home sapiens pancreatic lipase-related protein 3 (PNLIPRP3), mRNA [NM_03011709]   |
| A.21.P0001460  | 2.677             | 1.421                 | 2.677                   | up                        | LINC00892      | Home sapiens long intergenic non-protein coding RNA 992 (LINC00892), transcript variant 1, long non-coding RNA [NR_015440]  |
| A.33.P3920724  | 2.674             | 1.419                 | 2.674                   | up                        | BP198177       | olfactory receptor, family 18, subfamily D, member 3 pseudogene [SourceHGNC:SymbolAcc:HGNC:15106] [ENST0000042501]          |
| A.33.P325384   | 2.662             | 1.413                 | 2.662                   | up                        | BP198177       | Home sapiens BPT10id containing family C (BP198177), mRNA [NM_174952]   |
| A.23.P15328    | 2.657             | 1.410                 | 2.657                   | up                        | SLC11E1        | Home sapiens sulfotransferase family 1E, atrogen-patterning, member 1 (SLC11E1), mRNA [NM_064420]                           |
| A.33.P1859     | 2.639             | 1.387                 | 2.639                   | up                        | SP7SSB         | Home sapiens sperm palmitoyltransferase small subunit B (SP7SSB), mRNA [NM_001940100]                                       |
| A.33.P3275141  | 2.597             | 1.377                 | 2.597                   | up                        | HES1           | Home sapiens hesradin-like 1 (HES1), mRNA [NM_001000001]  |
| A.23.P274469   | 2.560             | 1.356                 | 2.560                   | up                        | HES1           | Home sapiens hesradin-like 1 (HES1), mRNA [NM_001000001]  |
| A.33.P3273134  | 2.558             | 1.355                 | 2.558                   | up                        | SZ12           | Home sapiens separate theobald 2 homolog (mouse) (SZ12), mRNA [NM_015284]   |
| A.21.P0000166  | 2.551             | 1.351                 | 2.551                   | up                        | PPP5D1         | Home sapiens PPP-5 tetrahydrofolate repeat domain containing 1 (PPP5D1), mRNA [NM_001205281]                                |
| A.22.P00025459 | 2.479             | 1.310                 | 2.479                   | up                        | LOC284861      | 603075817F1 NIH.MGC.119 Home sapiens cDNA clone IMAGE5167396 5' mRNA sequence [BI282834]                                    |
| A.33.P337836   | 2.459             | 1.297                 | 2.459                   | up                        | KFT1           | Home sapiens keratin 1, type II (KRT1), mRNA [NM_006121]  |
| A.21.P00009210 | 2.444             | 1.290                 | 2.444                   | up                        | lnc-PAFAH1B1-3 | lncRNA [lnc-PAFAH1B1-3], lncRNA [lnc-PAFAH1B1-3]  |
| A.21.P00005711 | 2.431             | 1.282                 | 2.431                   | up                        | lnc-ENPP1-2    | lncRNA [lnc-ENPP1-2], lncRNA [lnc-ENPP1-2]  |
| A.21.P0011229  | 2.419             | 1.275                 | 2.419                   | up                        | LINC00371      | long intergenic non-protein coding RNA 371 [SourceHGNC:SymbolAcc:HGNC:42893] [ENST0000063210]                               |
| A.23.P317177   | 2.401             | 1.264                 | 2.401                   | up                        | lnc-FAM182B-1  | lncRNA [lnc-FAM182B-1], lncRNA [lnc-FAM182B-1]  |
| A.21.P0010629  | 2.324             | 1.217                 | 2.324                   | up                        | lnc-FAM182B-1  | lncRNA [lnc-FAM182B-1], lncRNA [lnc-FAM182B-1]  |

|                |       |       |       |    |                |  |
|----------------|-------|-------|-------|----|----------------|--|
| A_33_P3408913  | 2,323 | 1,216 | 2,323 | up | SAAZ           | Home sapiens secum amyloid A2 (SAAZ), transcript variant 2, mRNA [NM_001127300]  |
| A_23_P153480   | 2,308 | 1,207 | 2,308 | up | KLK5           | Home sapiens kallikrein-related peptidase 5 (KLK5), transcript variant 1, mRNA [NM_012427]   |
| A_33_P3671291  | 2,298 | 1,201 | 2,298 | up | SNORA12        | EST191689: Synovial sarcoma Home sapiens cDNA 5', end, mRNA sequence [AA372882]  |
| A_23_P131876   | 2,278 | 1,188 | 2,278 | up | ACKR3          | Home sapiens atypical chemokine receptor 3 (ACKR3), mRNA [NM_020311]   |
| A_21_P0003002  | 2,253 | 1,178 | 2,253 | up | linc-ST3GAL6-1 | LONGpath lincRNA [linc-ST3GAL6-1], lincRNA [linc-ST3GAL6-1]  |
| A_23_P188781   | 2,236 | 1,161 | 2,236 | up | PTPRZ1         | Home sapiens protein tyrosine phosphatase, receptor-type, Z polypeptide 1 (PTPRZ1), transcript variant 1, mRNA [NM_002851]               |
| A_33_P3255417  | 2,199 | 1,137 | 2,199 | up |                |  |
| A_33_P3545108  | 2,187 | 1,129 | 2,187 | up |                |  |
| A_24_P364037   | 2,174 | 1,120 | 2,174 | up | G11er710       | Home sapiens interfilament, medium polypeptide (G11er710), transcript variant 1, mRNA [NM_028303]  |
| A_33_P3245894  | 2,163 | 1,115 | 2,163 | up | LOC101927587   | Home sapiens chromosome 10 open reading frame 3 (LOC101927587), transcript variant 1, mRNA [NM_005392]                                   |
| A_22_P00012037 | 2,141 | 1,098 | 2,141 | up | LOC101927587   | Home sapiens chromosome 10 open reading frame 3 (LOC101927587), transcript variant 1, mRNA [NM_005392]                                   |
| A_33_P3331831  | 2,133 | 1,093 | 2,133 | up | GENPM          | centromere protein 1 (Source:HGNC; Symbol:CEP1; Ensembl:ENST00000402338)   |
| A_23_P265598   | 2,123 | 1,088 | 2,123 | up | DLX2           | Home sapiens distal-less homeobox 2 (DLX2), mRNA [NM_004405]   |
| A_22_P00009676 | 2,116 | 1,081 | 2,116 | up | LOC101927768   | Home sapiens uncharacterized LOC101927768 (LOC101927768), long non-coding RNA [NR_125845]  |
| A_33_P3626886  | 2,116 | 1,081 | 2,116 | up | TNFRSF10D      | Home sapiens tumor necrosis factor receptor superfamily, member 10c, decoy with truncated death domain (TNFRSF10D), mRNA [NM_003840]     |
| A_23_P256724   | 2,075 | 1,053 | 2,075 | up | TNFRSF10C      | Home sapiens tumor necrosis factor receptor superfamily, member 10c, decoy without an intracellular domain (TNFRSF10C), mRNA [NM_003841] |
| A_23_P45304    | 2,048 | 1,034 | 2,048 | up | XK             | Home sapiens X-linked Kx blood group (XK), mRNA [NM_021085]  |
| A_33_P3254606  | 2,003 | 1,002 | 2,003 | up | MDR62          | Home sapiens MD repeat domain 62 (MDR62), transcript variant 1, mRNA [NM_001083961]  |



**Supplementary Table S5:**  
**Genes downregulated following CP-690,550 treatment**  
*Software: GeneSpring Version 14.9 (Agilent Technologies, Inc.)*  
*Moderated T-Test, corrected p-value cut-off 0.05*  
*Fold change cut-off 2.0*  
*p-value computation: Asymptotic*  
*Multiple Testing Correction: Benjamini-Hochberg*

| ProbeName      | FO (cp) Vs [cp] | Log FO (cp) Vs [cp] | FO (aba) (cp) Vs [cp] | Regulation (cp) Vs [cp] | GeneSymbol     | Description  |
|----------------|-----------------|---------------------|-----------------------|-------------------------|----------------|--|
| A.23.P165624   | -107.558        | -6.749              | 107.558               | down                    | TNFAIP6        | Homo sapiens tumor necrosis factor, alpha-induced protein 6 (TNFAIP6), mRNA [NM 007115]                                      |
| A.24.P265506   | -67.294         | -6.072              | 67.294                | down                    | NTRK1          | Homo sapiens neurotrophic tyrosine kinase, receptor, type 1 (NTRK1), transcript variant 2, mRNA [NM 002529]                  |
| A.23.P82868    | -53.051         | -5.729              | 53.051                | down                    | PLAT           | Homo sapiens plasminogen activator, tissue (PLAT), transcript variant 1, mRNA [NM 000930]                                    |
| A.33.P3285540  | -45.029         | -5.493              | 45.029                | down                    | CLDN5          | Homo sapiens claudin 5 (CLDN5), transcript variant 1, mRNA [NM 001130611]  |
| A.23.P215484   | -31.852         | -4.993              | 31.852                | down                    | CCL26          | Homo sapiens chemokine (C-C motif) ligand 26 (CCL26), mRNA [NM 006072]   |
| A.23.P85209    | -30.579         | -4.934              | 30.579                | down                    | IL13RA2        | Homo sapiens interleukin 13 receptor, alpha 2 (IL13RA2), mRNA [NM 000640]  |
| A.24.P580248   | -30.545         | -4.933              | 30.545                | down                    | XLOC_I2_000384 | BROAD Institute lincRNA (XLOC_I2_000384), lincRNA [TCONS_I2_00000538]  |
| A.23.P135990   | -24.845         | -4.635              | 24.845                | down                    | SLCO2A1        | Homo sapiens solute carrier organic anion transporter family, member 2A1 (SLCO2A1), mRNA [NM 005630]                         |
| A.24.P339429   | -21.460         | -4.424              | 21.460                | down                    | KCNJ12         | Homo sapiens potassium channel, inwardly rectifying subfamily J, member 12 (KCNJ12), mRNA [NM 021012]                        |
| A.32.P167076   | -21.295         | -4.412              | 21.295                | down                    | CAPN14         | Homo sapiens calpain 14 (CAPN14), mRNA [NM 001145122]  |
| A.23.P100711   | -20.928         | -4.387              | 20.928                | down                    | PMP22          | Homo sapiens peripheral myelin protein 22 (PMP22), transcript variant 1, mRNA [NM 000304]                                    |
| A.24.P3350397  | -15.058         | -3.912              | 15.058                | down                    | HSD3B1         | Homo sapiens hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 1 (HSD3B1), mRNA [NM 000862]         |
| A.23.P57118    | -12.958         | -3.696              | 12.958                | down                    | TGM3           | Homo sapiens transglutaminase 3 (TGM3), mRNA [NM 003245]   |
| A.33.P3338484  | -12.652         | -3.661              | 12.652                | down                    | DSG1-AS1       | Homo sapiens DSG1 antisense RNA 1 (DSG1-AS1), transcript variant 1, long non-coding RNA [NR_110788]                          |
| A.23.P57379    | -12.287         | -3.619              | 12.287                | down                    | CDC45          | Homo sapiens cell division cycle 45 (CDC45), transcript variant 2, mRNA [NM 003504]  |
| A.24.P87036    | -12.236         | -3.613              | 12.236                | down                    | ANO1           | Homo sapiens anoctamin 1, calcium activated chloride channel (ANO1), transcript variant 1, mRNA [NM 018043]                  |
| A.32.P214925   | -12.125         | -3.600              | 12.125                | down                    | TCAF2          | Homo sapiens family with sequence similarity 115, member C (FAM115C), transcript variant 2, mRNA [NM 173678]                 |
| A.33.P3354374  | -10.900         | -3.446              | 10.900                | down                    | C1QTNF1-AS1    | Homo sapiens C1QTNF1 antisense RNA 1 (C1QTNF1-AS1), transcript variant 1, long non-coding RNA [NR 040018]                    |
| A.32.P59302    | -10.432         | -3.383              | 10.432                | down                    | HIVEP3         | Homo sapiens human immunodeficiency virus type 1 enhancer binding protein 3 (HIVEP3), transcript variant 1, mRNA [NM 024503] |
| A.21.P0000120  | -10.103         | -3.337              | 10.103                | down                    | KCNJ18         | Homo sapiens potassium channel, inwardly rectifying subfamily J, member 18 (KCNJ18), mRNA [NM 001194598]                     |
| A.23.P207058   | -9.627          | -3.267              | 9.627                 | down                    | SOC3           | Homo sapiens suppressor of cytokine signaling 3 (SOC3), mRNA [NM 003955]   |
| A.23.P127584   | -9.389          | -3.231              | 9.389                 | down                    | NNMT           | Homo sapiens nicotinamide N-methyltransferase (NNMT), mRNA [NM 006169]   |
| A.24.P288890   | -9.341          | -3.224              | 9.341                 | down                    | FAM101A        | Homo sapiens family with sequence similarity 101, member A (FAM101A), mRNA [NM 181709]                                       |
| A.24.P388528   | -8.983          | -3.167              | 8.983                 | down                    | ST6GAL1        | Homo sapiens ST6 beta-galactosamide alpha-2,6-sialyltransferase 1 (ST6GAL1), transcript variant 1, mRNA [NM 173216]          |
| A.23.P59410    | -8.340          | -3.060              | 8.340                 | down                    | KIF25          | Homo sapiens kinesin family member 25 (KIF25), transcript variant 1, mRNA [NM 030615]  |
| A.23.P157865   | -8.112          | -3.020              | 8.112                 | down                    | TNC            | Homo sapiens tenascin C (TNC), mRNA [NM 002160]  |
| A.24.P328524   | -7.998          | -3.000              | 7.998                 | down                    | KALRN          | Homo sapiens kalirin, RhoGEF kinase (KALRN), transcript variant 2, mRNA [NM 003947]  |
| A.21.P0010550  | -7.832          | -2.969              | 7.832                 | down                    | XLOC_I2_000384 | BROAD Institute lincRNA (XLOC_I2_000384), lincRNA [TCONS_I2_00000537]  |
| A.23.P212657   | -7.749          | -2.954              | 7.749                 | down                    | HS3ST1         | Homo sapiens heparan sulfate (glucosamine) 3-O-sulfotransferase 1 (HS3ST1), mRNA [NM 005114]                                 |
| A.22.P00011151 | -7.587          | -2.924              | 7.587                 | down                    | linc-OBFC2A-1  | LINCipedia lincRNA (linc-OBFC2A-1), lincRNA [linc-OBFC2A-1]  |
| A.21.P0006800  | -7.451          | -2.897              | 7.451                 | down                    | linc-TBL1Y-1   | LINCipedia lincRNA (linc-TBL1Y-1), lincRNA [linc-TBL1Y-1]  |
| A.23.P1331     | -7.419          | -2.891              | 7.419                 | down                    | COL13A1        | Homo sapiens collagen, type XIII, alpha 1 (COL13A1), transcript variant 5, mRNA [NM 080801]                                  |
| A.33.P3316273  | -6.851          | -2.776              | 6.851                 | down                    | CCL3           | Homo sapiens chemokine (C-C motif) ligand 3 (CCL3), mRNA [NM 002983]   |
| A.23.P3956     | -6.817          | -2.769              | 6.817                 | down                    | C1QTNF1        | Homo sapiens C1q and tumor necrosis factor related protein 1 (C1QTNF1), transcript variant 4, mRNA [NM 198594]               |
| A.23.P126869   | -6.786          | -2.763              | 6.786                 | down                    | PADI3          | Homo sapiens peptidyl arginine deiminase, type III (PADI3), mRNA [NM 016233]   |
| A.33.P3227400  | -6.635          | -2.730              | 6.635                 | down                    | COL4A4         | Homo sapiens collagen, type IV, alpha 4 (COL4A4), mRNA [NM 000092]   |
| A.33.P3287223  | -6.318          | -2.660              | 6.318                 | down                    | DPP4           | Homo sapiens dipeptidyl-peptidase 4 (DPP4), mRNA [NM 001935]   |
| A.24.P120934   | -6.253          | -2.645              | 6.253                 | down                    | GADD45G        | Homo sapiens growth arrest and DNA-damage-inducible, gamma (GADD45G), mRNA [NM 006705]                                       |
| A.23.P94517    | -6.253          | -2.644              | 6.253                 | down                    | BRINP1         | Homo sapiens bone morphogenetic protein/retnoic acid inducible neural-specific 1 (BRINP1), mRNA [NM 014618]                  |
| A.24.P217572   | -6.139          | -2.618              | 6.139                 | down                    | EDNRA          | Homo sapiens endothelin receptor type A (EDNRA), transcript variant 1, mRNA [NM 001957]                                      |
| A.23.P81512    | -6.129          | -2.616              | 6.129                 | down                    | CLDN14         | Homo sapiens claudin 14 (CLDN14), transcript variant 1, mRNA [NM 144492]   |
| A.22.P00005389 | -5.870          | -2.553              | 5.870                 | down                    | DSG1-AS1       | Homo sapiens DSG1 antisense RNA 1 (DSG1-AS1), transcript variant 1, long non-coding RNA [NR_110788]                          |
| A.23.P420196   | -5.743          | -2.522              | 5.743                 | down                    | SOC3           | Homo sapiens suppressor of cytokine signaling 3 (SOC3), mRNA [NM 003745]   |
| A.33.P3252394  | -5.247          | -2.392              | 5.247                 | down                    | GADD45G        | Homo sapiens growth arrest and DNA-damage-inducible, gamma (GADD45G), mRNA [NM 006705]                                       |
| A.23.P124642   | -5.186          | -2.375              | 5.186                 | down                    | RASGRP1        | Homo sapiens RAS guanyl releasing protein 1 (calcium and DAG-regulated) (RASGRP1), transcript variant 1, mRNA [NM 005793]    |
| A.33.P3405424  | -5.157          | -2.367              | 5.157                 | down                    | IL4I1          | Homo sapiens interleukin 4 induced 1 (IL4I1), transcript variant 1, mRNA [NM 152899]   |
| A.24.P89891    | -5.132          | -2.360              | 5.132                 | down                    | TRAF1          | Homo sapiens TNF receptor-associated factor 1 (TRAF1), transcript variant 1, mRNA [NM 005658]                                |
| A.23.P318904   | -5.127          | -2.358              | 5.127                 | down                    | SERTAD4        | Homo sapiens SERTA domain containing 4 (SERTAD4), mRNA [NM 019605]   |
| A.23.P144096   | -5.051          | -2.337              | 5.051                 | down                    | CISH           | Homo sapiens cytokine inducible SH2-containing protein (CISH), transcript variant 2, mRNA [NM 145071]                        |
| A.23.P120227   | -5.004          | -2.323              | 5.004                 | down                    | LBH            | Homo sapiens limb bud and heart development (LBH), mRNA [NM 030915]  |
| A.24.P48204    | -4.996          | -2.321              | 4.996                 | down                    | SECTM1         | Homo sapiens secreted and transmembrane 1 (SECTM1), mRNA [NM 003004]   |
| A.33.P3401826  | -4.940          | -2.305              | 4.940                 | down                    | CMPK2          | Homo sapiens cytidine monophosphate (UMP-CMP) kinase 2, mitochondrial (CMPK2), transcript variant 1, mRNA [NM 207315]        |
| A.23.P79978    | -4.911          | -2.296              | 4.911                 | down                    | SLC24A3        | Homo sapiens solute carrier family 24 (sodium/potassium/calcium exchanger), member 3 (SLC24A3), mRNA [NM 020689]             |
| A.23.P331560   | -4.859          | -2.281              | 4.859                 | down                    | SLC26A4        | Homo sapiens solute carrier family 26 (anion exchanger), member 4 (SLC26A4), mRNA [NM 000441]                                |
| A.23.P135548   | -4.753          | -2.249              | 4.753                 | down                    | DPYD           | Homo sapiens dihydropyrimidine dehydrogenase (DPYD), transcript variant 1, mRNA [NM 000110]                                  |
| A.23.P88678    | -4.741          | -2.245              | 4.741                 | down                    | C15orf27       | Homo sapiens chromosome 15 open reading frame 27 (C15orf27), mRNA [NM 152335]  |
| A.23.P105562   | -4.681          | -2.227              | 4.681                 | down                    | VWF            | Homo sapiens von Willebrand factor (VWF), mRNA [NM 000552]   |
| A.22.P00008159 | -4.643          | -2.215              | 4.643                 | down                    |                |  |
| A.21.P0007482  | -4.628          | -2.210              | 4.628                 | down                    | FZD10-AS1      | Homo sapiens FZD10 antisense RNA 1 (head to head) (FZD10-AS1), long non-coding RNA [NR 033834]                               |
| A.33.P3364263  | -4.550          | -2.186              | 4.550                 | down                    | LBH            | Homo sapiens limb bud and heart development (LBH), mRNA [NM 030915]  |
| A.32.P207169   | -4.550          | -2.186              | 4.550                 | down                    | SERTAD4-AS1    | Homo sapiens SERTAD4 antisense RNA 1 (SERTAD4-AS1), long non-coding RNA [NR 024337]  |
| A.23.P60627    | -4.542          | -2.183              | 4.542                 | down                    | ALOX15B        | Homo sapiens arachidonate 15-lipoxygenase, type B (ALOX15B), transcript variant d, mRNA [NM 001141]                          |
| A.23.P158318   | -4.540          | -2.183              | 4.540                 | down                    | ROR2           | Homo sapiens receptor tyrosine kinase-like orphan receptor 2 (ROR2), mRNA [NM 004560]  |
| A.33.P3364268  | -4.474          | -2.162              | 4.474                 | down                    | LBH            | Homo sapiens limb bud and heart development (LBH), mRNA [NM 030915]  |
| A.23.P393034   | -4.425          | -2.146              | 4.425                 | down                    | HAS3           | Homo sapiens hyaluronan synthase 3 (HAS3), transcript variant 1, mRNA [NM 005329]  |
| A.23.P142974   | -4.381          | -2.131              | 4.381                 | down                    | ARHGAP25       | Homo sapiens Rho GTPase activating protein 25 (ARHGAP25), transcript variant 1, mRNA [NM 001007231]                          |
| A.33.P3436646  | -4.311          | -2.108              | 4.311                 | down                    | LOC151657      | Homo sapiens cDNA FLJ33795 fs, clone CTONG1000097, [AK091114]  |
| A.24.P229531   | -4.192          | -2.067              | 4.192                 | down                    | NABP1          | Homo sapiens nucleic acid binding protein 1 (NABP1), transcript variant 1, mRNA [NM 001031716]                               |
| A.23.P91910    | -4.129          | -2.046              | 4.129                 | down                    | PLSCR4         | Homo sapiens phospholipid scramblase 4 (PLSCR4), transcript variant 2, mRNA [NM 020353]                                      |
| A.23.P99386    | -4.052          | -2.019              | 4.052                 | down                    | TNFSF11        | Homo sapiens tumor necrosis factor (ligand) superfamily, member 11 (TNFSF11), transcript variant 1, mRNA [NM 003701]         |
| A.21.P0010970  | -4.015          | -2.005              | 4.015                 | down                    | XLOC_I2_002281 | BROAD Institute lincRNA (XLOC_I2_002281), lincRNA [TCONS_I2_00004475]  |
| A.22.P00001288 | -4.009          | -2.003              | 4.009                 | down                    | linc-ANKUB1-1  | LINCipedia lincRNA (linc-ANKUB1-1), lincRNA [linc-ANKUB1-1]  |
| A.33.P3374289  | -3.953          | -1.983              | 3.953                 | down                    | C10orf82       | Homo sapiens chromosome 10 open reading frame 82 (C10orf82), mRNA [NM 144661]  |
| A.23.P13753    | -3.950          | -1.982              | 3.950                 | down                    | NFE2           | Homo sapiens nuclear factor, erythroid 2 (NFE2), transcript variant 1, mRNA [NM 006163]                                      |
| A.23.P399043   | -3.948          | -1.981              | 3.948                 | down                    | AKAP2          | Homo sapiens A kinase (PRKA) anchor protein 2 (AKAP2), transcript variant 1, mRNA [NM 0040065]                               |
| A.23.P429950   | -3.948          | -1.981              | 3.948                 | down                    | KAL1           | Homo sapiens Kallmann syndrome 1 sequence (KAL1), mRNA [NM 000216]   |
| A.32.P86763    | -3.935          | -1.976              | 3.935                 | down                    | TGM2           | Homo sapiens transglutaminase 2 (TGM2), transcript variant 1, mRNA [NM 004613]   |
| A.23.P105251   | -3.915          | -1.969              | 3.915                 | down                    | GLI1           | Homo sapiens GLI family, zinc finger-1 (GLI1), transcript variant 1, mRNA [NM 005269]  |
| A.23.P324754   | -3.892          | -1.961              | 3.892                 | down                    | CEMP           | Homo sapiens cell migration inducing protein, hyaluronan binding (CEMP), transcript variant 3, mRNA [NM 018689]              |
| A.23.P12082    | -3.890          | -1.960              | 3.890                 | down                    | CHI3L2         | Homo sapiens chitinase 3-like 2 (CHI3L2), transcript variant 3, mRNA [NM 001025199]  |
| A.23.P17821    | -3.884          | -1.958              | 3.884                 | down                    | PLA2G3         | Homo sapiens phospholipase A2, group III (PLA2G3), mRNA [NM 015715]  |
| A.33.P3241661  | -3.881          | -1.956              | 3.881                 | down                    | LOC388780      | Homo sapiens uncharacterized LOC388780 (LOC388780), mRNA [NM 001287682]  |
| A.23.P123596   | -3.863          | -1.950              | 3.863                 | down                    | GLDC           | Homo sapiens glycine dehydrogenase (decarboxylating) (GLDC), mRNA [NM 000170]  |
| A.23.P53126    | -3.830          | -1.937              | 3.830                 | down                    | LMO2           | Homo sapiens LIM domain only 2 (rhombotin-like 1) (LMO2), transcript variant 1, mRNA [NM 005574]                             |
| A.19.P00315502 | -3.771          | -1.915              | 3.771                 | down                    | LOC102723721   | PREDICTED: Homo sapiens uncharacterized LOC102723721 (LOC102723721), ncRNA [XR 424100]                                       |
| A.23.P66432    | -3.643          | -1.865              | 3.643                 | down                    | TTYH2          | Homo sapiens tweety family member 2 (TTYH2), transcript variant 1, mRNA [NM 0032646]   |
| A.19.P00811717 | -3.572          | -1.837              | 3.572                 | down                    | CDHR3          | cadherin-related family member 3 [Source:HGNC Symbol;Acc:HGNC:26309] [ENS00000488386]  |
| A.23.P409093   | -3.567          | -1.835              | 3.567                 | down                    | ANO4           | Homo sapiens anoctamin 4 (ANO4), transcript variant 3, mRNA [NM 178826]  |

|                |        |        |       |      |                |   |
|----------------|--------|--------|-------|------|----------------|---|
| A.23.P203972   | -3.533 | -1.821 | 3.533 | down | FZD10          | Homo sapiens frizzled class receptor 10 (FZD10), mRNA [NM 007197]   |
| A.22.P0000567  | -3.436 | -1.781 | 3.436 | down |                |   |
| A.24.P923251   | -3.431 | -1.779 | 3.431 | down | TGM2           | Homo sapiens transglutaminase 2 (TGM2), transcript variant 2, mRNA [NM 198951]  |
| A.24.P300777   | -3.427 | -1.777 | 3.427 | down | ADAM8          | Homo sapiens ADAM metalloproteinase domain 8 (ADAM8), transcript variant 1, mRNA [NM 001109]  |
| A.23.P319617   | -3.405 | -1.768 | 3.405 | down | CHST7          | Homo sapiens carbohydrate (N-acetyl)glucosamine 6-O sulfotransferase 7 (CHST7), mRNA [NM 019886]  |
| A.23.P91390    | -3.374 | -1.754 | 3.374 | down | THBD           | Homo sapiens thrombospondin (THBD), mRNA [NM 000361]  |
| A.23.P201171   | -3.357 | -1.747 | 3.357 | down | TRAF5          | Homo sapiens TNF receptor-associated factor 5 (TRAF5), transcript variant 1, mRNA [NM 004619]   |
| A.21.P0005293  | -3.352 | -1.745 | 3.352 | down |                |   |
| A.21.P0013283  | -3.277 | -1.712 | 3.277 | down | XLOC I2 013730 | BROAD Institute lincRNA (XLOC I2 013730), lincRNA [TCOIS I2 0026402]  |
| A.23.P32078    | -3.270 | -1.709 | 3.270 | down | SLC28A3        | Homo sapiens solute carrier family 28 (concentrative nucleoside transporter), member 3 (SLC28A3), transcript variant 2, mRNA [NM 022127]  |
| A.33.P3308534  | -3.264 | -1.707 | 3.264 | down | OSBPL1A        | Homo sapiens oxysterol binding protein-like 1A (OSBPL1A), transcript variant 2, mRNA [NM 080597]  |
| A.23.P68155    | -3.243 | -1.698 | 3.243 | down | IFIH1          | Homo sapiens interferon induced with helicase C domain 1 (IFIH1), mRNA [NM 022168]  |
| A.23.P8913     | -3.240 | -1.696 | 3.240 | down | CA2            | Homo sapiens carbonic anhydrase II (CA2), transcript variant 1, mRNA [NM 000067]  |
| A.24.P10233    | -3.239 | -1.696 | 3.239 | down | DAPK2          | Homo sapiens death-associated protein kinase 2 (DAPK2), mRNA [NM 014326]  |
| A.23.P429998   | -3.216 | -1.685 | 3.216 | down | FOSB           | Homo sapiens FBJ murine osteosarcoma viral oncogene homolog B (FOSB), transcript variant 1, mRNA [NM 006732]  |
| A.23.P118158   | -3.208 | -1.682 | 3.208 | down | HS3ST2         | Homo sapiens heparan sulfate (glucosamine) 3-O-sulfotransferase 2 (HS3ST2), mRNA [NM 006043]  |
| A.23.P104741   | -3.176 | -1.667 | 3.176 | down | KIRREL3        | Homo sapiens kin of IRRE like 3 (Drosophila) (KIRREL3), transcript variant 1, mRNA [NM 032531]  |
| A.23.P10121    | -3.123 | -1.643 | 3.123 | down | SFRP1          | Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA [NM 003012]  |
| A.23.P67678    | -3.108 | -1.636 | 3.108 | down | IL23A          | Homo sapiens interleukin 23, alpha subunit p19 (IL23A), mRNA [NM 016584]  |
| A.21.P0013308  | -3.104 | -1.634 | 3.104 | down | XLOC I2 013846 | BROAD Institute lincRNA (XLOC I2 013846), lincRNA [TCOIS I2 00026593]   |
| A.33.P3413355  | -3.102 | -1.633 | 3.102 | down | CHST1          | Homo sapiens carbohydrate (keratan sulfate Gal-6) sulfotransferase 1 (CHST1), mRNA [NM 003654]  |
| A.23.P382835   | -3.098 | -1.631 | 3.098 | down | P2RY1          | Homo sapiens purinergic receptor P2Y, G-protein coupled, 1 (P2RY1), mRNA [NM 002563]  |
| A.23.P54144    | -3.078 | -1.622 | 3.078 | down | BMP4           | Homo sapiens bone morphogenetic protein 4 (BMP4), transcript variant 1, mRNA [NM 001202]  |
| A.33.P3262118  | -3.063 | -1.615 | 3.063 | down | LUZP1          | leucine zipper protein 1 [Source:HGNC Symbol;Acc:HGNC:14985] [ENS:TO0000314174]   |
| A.33.P3349646  | -3.040 | -1.604 | 3.040 | down | PCDH7          | Homo sapiens protocadherin 7 (PCDH7), transcript variant a, mRNA [NM 002589]  |
| A.23.P329198   | -3.032 | -1.600 | 3.032 | down | NABP1          | Homo sapiens nucleic acid binding protein 1 (NABP1), transcript variant 1, mRNA [NM 001031716]  |
| A.23.P36397    | -3.018 | -1.594 | 3.018 | down | CYP27B1        | Homo sapiens cytochrome P450, family 27, subfamily B, polypeptide 1 (CYP27B1), mRNA [NM 000785]   |
| A.23.P207319   | -2.979 | -1.575 | 2.979 | down | MAP3K14        | Homo sapiens mitogen-activated protein kinase kinase kinase 14 (MAP3K14), mRNA [NM 003954]  |
| A.24.P142118   | -2.971 | -1.571 | 2.971 | down | THBS1          | Homo sapiens thrombospondin 1 (THBS1), mRNA [NM 003246]   |
| A.33.P3256952  | -2.922 | -1.547 | 2.922 | down | EGLN3          | Homo sapiens egl-9 family hypoxia-inducible factor 3 (EGLN3), mRNA [NM 022073]  |
| A.23.P160720   | -2.914 | -1.543 | 2.914 | down | BATF3          | Homo sapiens basic leucine zipper transcription factor, ATF-like 3 (BATF3), mRNA [NM 018664]  |
| A.33.P3417150  | -2.907 | -1.539 | 2.907 | down | P2RY1          | Homo sapiens purinergic receptor P2Y, G-protein coupled, 1 (P2RY1), mRNA [NM 002563]  |
| A.33.P3337134  | -2.862 | -1.517 | 2.862 | down | ABLIM2         | Homo sapiens actin binding LIM protein family, member 2 (ABLIM2), transcript variant 1, mRNA [NM 001130083]   |
| A.33.P3340665  | -2.819 | -1.495 | 2.819 | down | PRSS53         | Homo sapiens protease, serine, S3 (PRSS53), mRNA [NM 001039503]   |
| A.33.P3531204  | -2.818 | -1.495 | 2.818 | down | C1QTNF9B-AS1   | Homo sapiens C1QTNF9B antisense RNA 1 (C1QTNF9B-AS1), transcript variant 2, mRNA [NM 001135816]   |
| A.33.P3277447  | -2.787 | -1.479 | 2.787 | down | SLC26A2        | Homo sapiens solute carrier family 26 (anion exchanger), member 2 (SLC26A2), mRNA [NM 000112]   |
| A.32.P113066   | -2.784 | -1.477 | 2.784 | down | LRAT           | Homo sapiens lecithin retinol acyltransferase (phosphatidylcholine--retinol O-acyltransferase) (LRAT), transcript variant 1, mRNA [NM 004744]                                       |
| A.23.P54291    | -2.781 | -1.476 | 2.781 | down | DUOX1          | Homo sapiens dual oxidase 1 (DUOX1), transcript variant 1, mRNA [NM 017434]   |
| A.32.P32739    | -2.759 | -1.464 | 2.759 | down | NAGS           | Homo sapiens N-acetylglutamate synthase (NAGS), mRNA [NM 153206]  |
| A.33.P3342528  | -2.752 | -1.461 | 2.752 | down | P2RY1          | Homo sapiens purinergic receptor P2Y, G-protein coupled, 1 (P2RY1), mRNA [NM 002563]  |
| A.23.P24884    | -2.747 | -1.458 | 2.747 | down | ST5            | Homo sapiens suppression of tumorigenicity 5 (ST5), transcript variant 1, mRNA [NM 005418]  |
| A.33.P3381666  | -2.746 | -1.457 | 2.746 | down | ABLIM2         | Homo sapiens actin binding LIM protein family, member 2 (ABLIM2), transcript variant 7, mRNA [NM 001130088]   |
| A.33.P3410235  | -2.736 | -1.452 | 2.736 | down | DUOX1          | Homo sapiens dual oxidase maturation factor 1 (DUOX1), transcript variant 5, mRNA [NM 001276267]  |
| A.33.P3250443  | -2.729 | -1.449 | 2.729 | down | DUOX2A         | Homo sapiens dual oxidase maturation factor 2 (DUOX2A), mRNA [NM 207581]  |
| A.22.P0000931  | -2.719 | -1.443 | 2.719 | down | linc-AKIP1-3   | LNCipedia lincRNA (linc-AKIP1-3), lincRNA [AKIP1-3]   |
| A.24.P116669   | -2.714 | -1.441 | 2.714 | down | CANT1          | Homo sapiens calcium activated nucleotidase 1 (CANT1), transcript variant 1, mRNA [NM 138793]   |
| A.33.P3225507  | -2.699 | -1.433 | 2.699 | down | OR10G2         | Homo sapiens olfactory receptor, family 10, subfamily G, member 2 (OR10G2), mRNA [NM 001005466]   |
| A.33.P3331511  | -2.645 | -1.403 | 2.645 | down | LINC00173      | Homo sapiens long intergenic non-protein coding RNA 173 (LINC00173), transcript variant 1, long non-coding RNA [NR 027345]  |
| A.21.P0007025  | -2.636 | -1.398 | 2.636 | down | linc-FGFR2-2   | LNCipedia lincRNA (linc-FGFR2-2), lincRNA [linc-FGFR2-2]  |
| A.23.P27606    | -2.633 | -1.397 | 2.633 | down | IL27RA         | Homo sapiens interleukin 27 receptor, alpha (IL27RA), mRNA [NM 004843]  |
| A.22.P00016315 | -2.626 | -1.393 | 2.626 | down | FZD10-AS1      | Homo sapiens FZD10 antisense RNA 1 (head to head) (FZD10-AS1), long non-coding RNA [NR 033834]  |
| A.33.P3226810  | -2.625 | -1.392 | 2.625 | down | TNFSF10        | Homo sapiens tumor necrosis factor (ligand) superfamily, member 10 (TNFSF10), transcript variant 1, mRNA [NM 003810]  |
| A.23.P45560    | -2.617 | -1.388 | 2.617 | down | GPR143         | Homo sapiens G protein-coupled receptor 143 (GPR143), mRNA [NM 000273]  |
| A.33.P3225512  | -2.603 | -1.380 | 2.603 | down | OAS2           | Homo sapiens 2'-5'-oligoadenylate synthetase 2, 69/71kDa (OAS2), transcript variant 2, mRNA [NM 002535]   |
| A.23.P44569    | -2.600 | -1.378 | 2.600 | down | ABCC2          | Homo sapiens ATP-binding cassette, sub-family C (CFTR/MRP), member 2 (ABCC2), mRNA [NM 000392]  |
| A.22.P00017060 | -2.589 | -1.372 | 2.589 | down | ADAM8          | Homo sapiens ADAM metalloproteinase domain 8 (ADAM8), transcript variant 2, mRNA [NM 001164499]   |
| A.23.P321388   | -2.575 | -1.364 | 2.575 | down | RNF19B         | Homo sapiens ring finger protein 19B (RNF19B), transcript variant 1, mRNA [NM 153341]   |
| A.21.P0005368  | -2.561 | -1.356 | 2.561 | down | linc-GARS-4    | LNCipedia lincRNA (linc-GARS-4), lincRNA [linc-GARS-4]  |
| A.23.P155123   | -2.560 | -1.356 | 2.560 | down | CYP2D6         | Homo sapiens cytochrome P450, family 2, subfamily D, polypeptide 6 (CYP2D6), transcript variant 1, mRNA [NM 000106]   |
| A.23.P400945   | -2.559 | -1.356 | 2.559 | down | ETV3           | Homo sapiens ets variant 3 (ETV3), transcript variant 2, mRNA [NM 005240]   |
| A.21.P0009341  | -2.542 | -1.346 | 2.542 | down | WFC2IP         | Homo sapiens WAP four-disulfide core domain 21, pseudogene (WFC2IP), non-coding RNA [NR 030732]   |
| A.23.P156180   | -2.531 | -1.340 | 2.531 | down | SLC22A4        | Homo sapiens solute carrier family 22 (organic cation/zwitterion transporter), member 4 (SLC22A4), mRNA [NM 003059]   |
| A.19.P00015649 | -2.518 | -1.332 | 2.518 | down | LOC100507165   | PREDICTED: Homo sapiens uncharacterized LOC100507165 (LOC100507165), ncRNA [XR 110530]  |
| A.23.P50638    | -2.507 | -1.326 | 2.507 | down | LRG1           | Homo sapiens leucine-rich alpha-2-glycoprotein 1 (LRG1), mRNA [NM 0052972]  |
| A.23.P41785    | -2.505 | -1.325 | 2.505 | down | IRF1           | Homo sapiens interferon regulatory factor 1 (IRF1), mRNA [NM 002198]  |
| A.23.P26759    | -2.491 | -1.317 | 2.491 | down | CANT1          | Homo sapiens calcium activated nucleotidase 1 (CANT1), transcript variant 1, mRNA [NM 138793]   |
| A.23.P153320   | -2.474 | -1.307 | 2.474 | down | ICAM1          | Homo sapiens intercellular adhesion molecule 1 (ICAM1), mRNA [NM 000201]  |
| A.24.P691826   | -2.458 | -1.297 | 2.458 | down | WFC2IP         | WAP four-disulfide core domain 21, pseudogene [Source:HGNC Symbol;Acc:HGNC:50357] [ENST00000587298]   |
| A.23.P417974   | -2.445 | -1.290 | 2.445 | down | AQP11          | Homo sapiens aquaporin 11 (AQP11), mRNA [NM 173039]   |
| A.23.P120794   | -2.439 | -1.286 | 2.439 | down | SLC7A4         | Homo sapiens solute carrier family 7, member 4 (SLC7A4), mRNA [NM 004173]   |
| A.22.P00011372 | -2.435 | -1.284 | 2.435 | down |                | Homo sapiens cDNA: FLJ23006 fis, clone LNC00414, [AK026659]   |
| A.33.P3330443  | -2.422 | -1.276 | 2.422 | down | FAM110B        | Homo sapiens family with sequence similarity 110, member B (FAM110B), mRNA [NM 147189]  |
| A.23.P348257   | -2.413 | -1.271 | 2.413 | down | NUAK1          | Homo sapiens NUAK family, SNF1-like kinase, 1 (NUAK1), mRNA [NM 014840]   |
| A.21.P0007114  | -2.395 | -1.260 | 2.395 | down | linc-FGF8-1    | LNCipedia lincRNA (linc-FGF8-1), lincRNA [linc-FGF8-1]  |
| A.23.P121253   | -2.350 | -1.232 | 2.350 | down | TNFSF10        | Homo sapiens tumor necrosis factor (ligand) superfamily, member 10 (TNFSF10), transcript variant 1, mRNA [NM 003810]  |
| A.23.P114057   | -2.317 | -1.213 | 2.317 | down | SEMA4C         | Homo sapiens sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4C (SEMA4C), mRNA [NM 017789]                            |
| A.23.P87011    | -2.289 | -1.201 | 2.289 | down | TAGLN          | Homo sapiens transgelin (TAGLN), transcript variant 1, mRNA [NM 00101522]   |
| A.23.P67971    | -2.289 | -1.201 | 2.289 | down | GALM           | Homo sapiens galactose mutarotase (aldose 1-epimerase) (GALM), mRNA [NM 138801]   |
| A.23.P64721    | -2.299 | -1.201 | 2.299 | down | HICAR3         | Homo sapiens hydroxycarboxylic acid receptor 3 (HICAR3), mRNA [NM 008016]   |
| A.33.P3290239  | -2.298 | -1.201 | 2.298 | down | DUOX1          | Homo sapiens dual oxidase maturation factor 1 (DUOX1), transcript variant 4, mRNA [NM 001276266]  |
| A.33.P3372727  | -2.290 | -1.195 | 2.290 | down | SEMA5A         | Homo sapiens sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A (SEMA5A), mRNA [NM 003966] |
| A.23.P344555   | -2.284 | -1.191 | 2.284 | down | NEDD9          | Homo sapiens neural precursor cell expressed, developmentally down-regulated 9 (NEDD9), transcript variant 1, mRNA [NM 006403]  |
| A.33.P3268472  | -2.283 | -1.191 | 2.283 | down | GTSC           | Homo sapiens cathepsin C (GTSC), transcript variant 3, mRNA [NM 001114173]  |
| A.23.P112452   | -2.273 | -1.185 | 2.273 | down | GGTA1P         | Homo sapiens glycoprotein, alpha-galactosyltransferase 1 pseudogene (GGTA1P), transcript variant 1, non-coding RNA [NR 003191]  |
| A.24.P915692   | -2.243 | -1.166 | 2.243 | down | PHLDA1         | Homo sapiens pleckstrin homology-like domain, family A, member 1 (PHLDA1), mRNA [NM 007350]   |
| A.23.P6935     | -2.236 | -1.161 | 2.236 | down | GD47           | Homo sapiens CD47 molecule (GD47), transcript variant 2, mRNA [NM 198793]   |
| A.23.P87013    | -2.226 | -1.154 | 2.226 | down | TAGLN          | Homo sapiens transgelin (TAGLN), transcript variant 1, mRNA [NM 00101522]   |
| A.23.P80248    | -2.209 | -1.144 | 2.209 | down | TXN            | Homo sapiens thioredoxin (TXN), transcript variant 1, mRNA [NM 003329]  |
| A.33.P3286066  | -2.208 | -1.143 | 2.208 | down | PHLDB2         | Homo sapiens pleckstrin homology-like domain, family B, member 2 (PHLDB2), transcript variant 1, mRNA [NM 001134438]  |
| A.23.P255672   | -2.190 | -1.131 | 2.190 | down | ABLIM2         | Homo sapiens actin binding LIM protein family, member 2 (ABLIM2), transcript variant 6, mRNA [NM 032432]  |

|                |        |        |       |      |               |  |
|----------------|--------|--------|-------|------|---------------|--|
| A.22.P00003189 | -2.188 | -1.130 | 2.188 | down | LOC100996348  | Homo sapiens uncharacterized LOC100996348 (LOC100996348), transcript variant 1, long non-coding RNA [NR 121630]          |
| A.33.P3239532  | -2.184 | -1.127 | 2.184 | down | ZNF3          | Homo sapiens zinc finger protein 3 (ZNF3), transcript variant 1, mRNA [NM 017715]  |
| A.33.P3236986  | -2.180 | -1.124 | 2.180 | down | CYP17A1-AS1   | PREDICTED: Homo sapiens uncharacterized LOC102724307 (LOC102724307), ncRNA [XR 424180]                                   |
| A.33.P3284763  | -2.161 | -1.111 | 2.161 | down | DMD           | Homo sapiens dystrophin (DMD), transcript variant Dp140b, mRNA [NM 004021]   |
| A.22.P00020106 | -2.129 | -1.090 | 2.129 | down | linc-SMG1-2   | LINCipedia lincRNA (linc-SMG1-2), lincRNA [linc-SMG1-2.1]  |
| A.19.P00317904 | -2.129 | -1.090 | 2.129 | down | linc-ZNF674-3 | Homo sapiens cDNA FLJ25917 fis, clone CBR04926 [AK098783]  |
| A.33.P3306146  | -2.092 | -1.065 | 2.092 | down | PLAU          | Homo sapiens plasminogen activator, urokinase (PLAU), transcript variant 2, mRNA [NM 001145031]                          |
| A.19.P00315506 | -2.065 | -1.046 | 2.065 | down | KIAA0040      | Homo sapiens KIAA0040 (KIAA0040), transcript variant 1, mRNA [NM 001162893]  |
| A.33.P3400374  | -2.062 | -1.044 | 2.062 | down | HELZ2         | Homo sapiens helicase with zinc finger 2, transcriptional coactivator (HELZ2), transcript variant 1, mRNA [NM 001037335] |
| A.23.P134854   | -2.060 | -1.042 | 2.060 | down | CLDN23        | Homo sapiens claudin 23 (CLDN23), mRNA [NM 194284]   |
| A.32.P7015     | -2.056 | -1.040 | 2.056 | down | TSPAN15       | Homo sapiens tetraspanin 15 (TSPAN15), mRNA [NM 012339]  |
| A.21.P0000173  | -2.049 | -1.035 | 2.049 | down | C5orf56       | Homo sapiens chromosome 5 open reading frame 56 (C5orf56), long non-coding RNA [NR 045116]                               |
| A.33.P3216610  | -2.041 | -1.029 | 2.041 | down | TMPRSS4       | Homo sapiens transmembrane protease, serine 4 (TMPRSS4), transcript variant 6, mRNA [NM 001290094]                       |
| A.24.P64362    | -2.037 | -1.027 | 2.037 | down | WBP1L         | Homo sapiens WW domain binding protein 1-like (WBP1L), transcript variant 2, mRNA [NM 017787]                            |
| A.21.P0011466  | -2.031 | -1.022 | 2.031 | down |               | hect domain and RLD 2 pseudogene 4 [Source:HGNC Symbol;Acc:HGNC:4872] [ENST00000570151]                                  |
| A.23.P89570    | -2.027 | -1.020 | 2.027 | down | ZMYND15       | Homo sapiens zinc finger, MYND-type containing 15 (ZMYND15), transcript variant 2, mRNA [NM 032265]                      |
| A.23.P389250   | -2.018 | -1.013 | 2.018 | down | SMCO2         | Homo sapiens single-pass membrane protein with coiled-coil domains 2 (SMCO2), mRNA [NM 001145010]                        |
| A.24.P185854   | -2.013 | -1.009 | 2.013 | down | DMD           | Homo sapiens dystrophin (DMD), transcript variant Dp427p2, mRNA [NM 004010]  |
| A.24.P252497   | -2.011 | -1.008 | 2.011 | down | TRIB1         | Homo sapiens tribbles pseudokinase 1 (TRIB1), transcript variant 1, mRNA [NM 025195]                                     |
| A.33.P3389153  | -2.007 | -1.005 | 2.007 | down | STK10         | Homo sapiens serine/threonine kinase 10 (STK10), mRNA [NM 005990]  |
| A.24.P941167   | -2.006 | -1.005 | 2.006 | down | APOL6         | Homo sapiens apolipoprotein L 6 (APOL6), mRNA [NM 030641]  |













|    |    |                  |  |    |             |          |      |     |       |             |             |              |             |
|----|----|------------------|--|----|-------------|----------|------|-----|-------|-------------|-------------|--------------|-------------|
| 34 | Up | GOTERM_BP_DIRECT | GO:0043085 <sup>+</sup> positive regulation of apoptotic process | 44 | 2.700359606 | 1.9E-04  | 1386 | 300 | 16792 | 1.802284779 | 0.959648446 | 0.067851121  | 0.358884177 |
| 35 | Up | GOTERM_CC_DIRECT | GO:0008986 <sup>+</sup> cell surface                             | 69 | 4.484788473 | 1.95E-04 | 1477 | 542 | 18224 | 1.57077151  | 0.116146188 | 0.008197126  | 0.287596554 |
| 36 | Up | GOTERM_BP_DIRECT | GO:0007010 <sup>+</sup> cytoskeleton organization                | 28 | 1.724137331 | 2.9E-04  | 1366 | 161 | 16792 | 2.137882742 | 0.650888481 | 0.077515321  | 0.441761779 |
| 37 | Up | GOTERM_CC_DIRECT | GO:001632 <sup>+</sup> basolateral plasma membrane               | 30 | 1.84729064  | 2.75E-04 | 1477 | 180 | 18224 | 2.056420673 | 0.159607397 | 0.01089004   | 0.40795161  |
| 38 | Up | GOTERM_BP_DIRECT | GO:0010822 <sup>+</sup> positive regulation of gene expression   | 38 | 2.401477833 | 3.4E-04  | 1386 | 282 | 16792 | 1.829848111 | 0.777170346 | 0.101889157  | 0.637791288 |
| 39 | Up | GOTERM_BP_DIRECT | GO:0035556 <sup>+</sup> intracellular signal transduction        | 54 | 3.325123153 | 3.42E-04 | 1386 | 403 | 16792 | 1.647177646 | 0.779310895 | 0.095553346  | 0.638964288 |
| 40 | Up | GOTERM_MF_DIRECT | GO:0050985 <sup>+</sup> nitric-oxide synthase binding            | 7  | 0.431034483 | 4.8E-04  | 1381 | 14  | 16881 | 6.201689824 | 0.463252776 | 0.0667705346 | 0.753631590 |
| 41 | Up | GOTERM_BP_DIRECT | GO:0007087 <sup>+</sup> mitotic nuclear division                 | 37 | 2.78252123  | 4.7E-04  | 1366 | 248 | 16792 | 1.834010296 | 0.876134617 | 0.12237422   | 0.866138336 |
| 42 | Up | GOTERM_CC_DIRECT | GO:0000775 <sup>+</sup> chromosome centromeric region            | 14 | 0.820868666 | 5.1E-04  | 1477 | 57  | 18224 | 3.030514675 | 0.27731337  | 0.019823349  | 0.764233463 |
| 43 | Up | GOTERM_BP_DIRECT | GO:0007082 <sup>+</sup> sister chromatid cohesion                | 20 | 1.231927094 | 5.7E-04  | 1366 | 103 | 16792 | 2.38695846  | 0.922204511 | 0.138477909  | 1.082405416 |
| 44 | Up | GOTERM_CC_DIRECT | GO:0031892 <sup>+</sup> vesicle                                  | 23 | 1.416556158 | 5.89E-04 | 1477 | 128 | 18224 | 2.217076538 | 0.311192378 | 0.020497742  | 0.872351028 |
| 45 | Up | GOTERM_CC_DIRECT | GO:000136 <sup>+</sup> clathrin-coated vesicle                   | 14 | 0.820868666 | 6.13E-04 | 1477 | 58  | 18224 | 2.78264422  | 0.321610373 | 0.020216682  | 0.907851393 |
| 46 | Up | GOTERM_BP_DIRECT | GO:0076382 <sup>+</sup> headcocks differentiation                | 8  | 0.89458128  | 6.2E-04  | 1366 | 10  | 16792 | 7.575955461 | 0.89701726  | 0.14238529   | 1.17137488  |
| 47 | Up | GOTERM_BP_DIRECT | GO:007456 <sup>+</sup> cellular response to hypoxia              | 19 | 1.08950739  | 6.54E-04 | 1386 | 96  | 16792 | 2.432951    | 0.944010783 | 0.140767377  | 1.22086646  |





|    |    |                  |            |  |    |             |             |      |     |       |             |             |             |             |
|----|----|------------------|------------|--|----|-------------|-------------|------|-----|-------|-------------|-------------|-------------|-------------|
| 81 | Up | GOTERM.MF.DIRECT | GO:0005102 | receptor binding                                       | 45 | 2.770935961 | 0.002478957 | 1381 | 353 | 16881 | 1.581167405 | 0.964837581 | 0.168796302 | 3.985720754 |
| 82 | Up | GOTERM.MF.DIRECT | GO:0045458 | S100 protein binding                                   | 6  | 0.369458128 | 0.002303378 | 1381 | 13  | 16881 | 5.724638882 | 0.965996477 | 0.160367772 | 4.027844777 |
| 83 | Up | GOTERM.MF.DIRECT | GO:0042807 | identical protein binding                              | 83 | 5.10037438  | 0.002560825 | 1381 | 749 | 16881 | 1.374473306 | 0.968540707 | 0.174835461 | 4.118551075 |
| 84 | Up | GOTERM.CC.DIRECT | GO:0005915 | cell-cell adhesion junction                            | 42 | 2.586206897 | 0.002725978 | 1477 | 323 | 18224 | 1.604390122 | 0.822342692 | 0.652564943 | 3.970737355 |
| 85 | Up | GOTERM.MF.DIRECT | GO:0005885 | guanylate nucleotide exchange factor activity          | 20 | 1.231527094 | 0.002757352 | 1381 | 118 | 16881 | 2.102267774 | 0.975882218 | 0.178022629 | 4.427854837 |
| 86 | Up | GOTERM.BP.DIRECT | GO:0030049 | muscle filament sliding                                | 10 | 0.615763447 | 0.002835183 | 1386 | 38  | 16792 | 3.23495415  | 0.999996309 | 0.300514484 | 5.191617389 |
| 87 | Up | GOTERM.CC.DIRECT | GO:0018897 | extrinsic component of plasma membrane                 | 8  | 0.492610837 | 0.002948189 | 1477 | 25  | 18224 | 3.948327691 | 0.845715941 | 0.055061229 | 4.207450089 |
| 88 | Up | GOTERM.BP.DIRECT | GO:0042787 | protein ubiquitination involved in ubiquitin-dependent | 24 | 1.477623152 | 0.002972334 | 1386 | 153 | 16792 | 1.928268395 | 0.999997986 | 0.305327355 | 5.408173403 |
| 89 | Up | GOTERM.MF.DIRECT | GO:0098647 | cadherin binding involved in cell-cell adhesion        | 38 | 2.339801478 | 0.003547395 | 1381 | 290 | 16881 | 1.025270465 | 0.991726484 | 0.211634486 | 5.663050226 |
| 90 | Up | GOTERM.BP.DIRECT | GO:0002576 | platelet degranulation                                 | 18 | 1.08574384  | 0.003786894 | 1386 | 103 | 16792 | 2.148260814 | 0.999999946 | 0.363505497 | 6.870017794 |
| 91 | Up | GOTERM.BP.DIRECT | GO:0007589 | body fluid secretion                                   | 5  | 0.307881773 | 0.003826423 | 1386 | 9   | 16792 | 6.829347649 | 0.99999997  | 0.366284126 | 7.10097012  |
| 92 | Up | GOTERM.BP.DIRECT | GO:0030038 | actin cytoskeleton organization                        | 21 | 1.233103448 | 0.004420232 | 1386 | 130 | 16792 | 1.985764163 | 0.999999987 | 0.372770135 | 7.469720391 |
| 93 | Up | GOTERM.BP.DIRECT | GO:0006897 | endocytosis  | 22 | 1.354679803 | 0.00415224  | 1386 | 139 | 16792 | 1.9456271   | 0.999999989 | 0.367653814 | 7.515525263 |
| 94 | Up | GOTERM.BP.DIRECT | GO:0018887 | antigen processing and presentation                    | 12 | 0.38816256  | 0.004201679 | 1386 | 55  | 16792 | 2.822071077 | 0.999999991 | 0.363944699 | 7.801721529 |
| 95 | Up | GOTERM.BP.DIRECT | GO:0050728 | negative regulation of inflammatory response           | 15 | 0.32364652  | 0.004283391 | 1386 | 79  | 16792 | 2.334080942 | 0.999999994 | 0.362601924 | 7.744830947 |
| 96 | Up | GOTERM.MF.DIRECT | GO:0006997 | cytoskeletal protein binding                           | 11 | 0.573393901 | 0.004305813 | 1381 | 48  | 16881 | 2.84244122  | 0.997039609 | 0.242092896 | 6.830119123 |
| 97 | Up | GOTERM.CC.DIRECT | GO:0032132 | chromosome passenger complex                           | 4  | 0.248050519 | 0.004480678 | 1477 | 5   | 18224 | 9.970819223 | 0.948887003 | 0.683641607 | 6.741961889 |
| 98 | Up | GOTERM.MF.DIRECT | GO:0005088 | Ras guanylate nucleotide exchange factor activity      | 19 | 1.169505739 | 0.004781518 | 1381 | 115 | 16881 | 2.049254065 | 0.998444138 | 0.254646889 | 7.500419175 |

|     |    |                  |   |    |             |             |             |      |     |       |             |             |              |             |
|-----|----|------------------|---|----|-------------|-------------|-------------|------|-----|-------|-------------|-------------|--------------|-------------|
| 99  | Up | GOTERM_BP_DIRECT | GO:0007015 actin filament organization                        | 14 | 0.662086866 | 0.004626112 | 0.00509174  | 1366 | 72  | 16792 | 2.300271677 | 1           | 0.307098825  | 8.85779177  |
| 100 | Up | GOTERM_BP_DIRECT | GO:0043065 negative regulation of apoptotic process           | 54 | 3.325123153 | 0.00509174  | 0.00509174  | 1366 | 455 | 16792 | 1.458828733 | 1           | 0.401256612  | 9.170113409 |
| 101 | Up | GOTERM_BP_DIRECT | GO:0007565 female pregnancy                                   | 16 | 0.855221675 | 0.005172885 | 0.005172885 | 1366 | 89  | 16792 | 2.209446206 | 1           | 0.398160031  | 9.275271061 |
| 102 | Up | GOTERM_CC_DIRECT | GO:0043025 neuronal cell body                                 | 40 | 2.463054187 | 0.005213914 | 0.005213914 | 1477 | 315 | 18224 | 1.566796703 | 0.96344881  | 0.000212337  | 7.482521802 |
| 103 | Up | GOTERM_MF_DIRECT | GO:0001945 glycoprotein binding                               | 13 | 0.800492811 | 0.005246764 | 0.005246764 | 1361 | 65  | 16881 | 2.460675974 | 0.999174159 | 0.265561297  | 8.265558529 |
| 104 | Up | GOTERM_BP_DIRECT | GO:0046885 response to copper ion                             | 6  | 0.393458128 | 0.005268821 | 0.005268821 | 1366 | 15  | 16792 | 4.917130307 | 1           | 0.388834082  | 9.404072721 |
| 105 | Up | GOTERM_MF_DIRECT | GO:0008083 growth factor activity                             | 24 | 1.477832512 | 0.005472304 | 0.005472304 | 1361 | 162 | 16881 | 1.837537758 | 0.999390219 | 0.26540424   | 8.607215877 |
| 106 | Up | GOTERM_BP_DIRECT | GO:0070307 cellular response to hydrogen peroxide             | 12 | 0.738816256 | 0.005821625 | 0.005821625 | 1366 | 57  | 16792 | 2.597963322 | 1           | 0.460306129  | 9.971567793 |
| 107 | Up | GOTERM_BP_DIRECT | GO:0032689 negative regulation of interferon gamma production | 8  | 0.492810837 | 0.005897825 | 0.005897825 | 1366 | 28  | 16792 | 3.912235834 | 1           | 0.423281229  | 10.64845128 |
| 108 | Up | GOTERM_BP_DIRECT | GO:0019145 keratan sulfate biosynthetic process               | 8  | 0.492810837 | 0.005897825 | 0.005897825 | 1366 | 28  | 16792 | 3.912235834 | 1           | 0.423281229  | 10.64845128 |
| 109 | Up | GOTERM_MF_DIRECT | GO:0034907 chromatin DNA binding                              | 12 | 0.738816256 | 0.005898004 | 0.005898004 | 1361 | 58  | 16881 | 2.566216524 | 0.999695861 | 0.276692687  | 9.376939513 |
| 110 | Up | GOTERM_BP_DIRECT | GO:0010337 response to metal ion                              | 7  | 0.37381773  | 0.006125811 | 0.006125811 | 1366 | 10  | 16792 | 6.146472884 | 1           | 0.424501542  | 10.85721567 |
| 111 | Up | GOTERM_CC_DIRECT | GO:0008875 cytoskeletal organization                          | 5  | 0.431034483 | 0.006723575 | 0.006723575 | 1477 | 22  | 18224 | 3.925894011 | 0.98602374  | 0.11856821   | 9.546491985 |
| 112 | Up | GOTERM_CC_DIRECT | GO:0008870 phagocytic vesicle membrane                        | 12 | 0.738816256 | 0.007112512 | 0.007112512 | 1477 | 59  | 18224 | 2.509550312 | 0.988092528 | 0.114954666  | 10.07498689 |
| 113 | Up | GOTERM_CC_DIRECT | GO:0005903 brush border                                       | 12 | 0.738816256 | 0.008878328 | 0.008878328 | 1477 | 60  | 18224 | 2.467704807 | 0.99414474  | 0.12652352   | 11.380254   |
| 114 | Up | GOTERM_BP_DIRECT | GO:0042102 positive regulation of T cell proliferation        | 12 | 0.738816256 | 0.008256768 | 0.008256768 | 1366 | 60  | 16792 | 2.458565154 | 1           | 0.520019338  | 14.48010023 |
| 115 | Up | GOTERM_BP_DIRECT | GO:0007080 mitotic metaphase plate congression                | 9  | 0.554817192 | 0.008580415 | 0.008580415 | 1366 | 37  | 16792 | 2.900146800 | 1           | 0.520020407  | 14.9388241  |
| 116 | Up | GOTERM_BP_DIRECT | GO:0051439 regulation of ubiquitin-protein ligase activity    | 7  | 0.431034483 | 0.008929883 | 0.008929883 | 1366 | 23  | 16792 | 3.741294799 | 1           | 0.520020407  | 15.01849005 |
| 117 | Up | GOTERM_BP_DIRECT | GO:0072719 cellular response to cisplatin                     | 4  | 0.248205519 | 0.008885181 | 0.008885181 | 1366 | 6   | 16792 | 8.195217193 | 1           | 0.5203938163 | 15.43448919 |
| 118 | Up | GOTERM_BP_DIRECT | GO:0010951 negative regulation of endopeptidase activity      | 19 | 1.168650739 | 0.008866343 | 0.008866343 | 1366 | 121 | 16792 | 1.930278426 | 1           | 0.51766859   | 15.44734999 |
| 119 | Up | GOTERM_BP_DIRECT | GO:0051764 actin crosslink formation                          | 5  | 0.37881773  | 0.009013027 | 0.009013027 | 1366 | 11  | 16792 | 5.897648077 | 1           | 0.51820193   | 16.63407197 |
| 120 | Up | GOTERM_CC_DIRECT | GO:0005887 intermediate filament                              | 18 | 1.108374384 | 0.00939785  | 0.00939785  | 1477 | 113 | 18224 | 1.965428807 | 0.997446878 | 0.141943927  | 13.08230222 |
| 121 | Up | GOTERM_CC_DIRECT | GO:0005825 vesicle tight junction                             | 18 | 1.108374384 | 0.00939785  | 0.00939785  | 1477 | 113 | 18224 | 1.965428807 | 0.997446878 | 0.141943927  | 13.08230222 |
| 122 | Up | GOTERM_MF_DIRECT | GO:0001616 virus receptor activity                            | 13 | 0.800492811 | 0.009571752 | 0.009571752 | 1361 | 70  | 16881 | 2.303446833 | 0.999997681 | 0.392873874  | 14.58391399 |
| 123 | Up | GOTERM_MF_DIRECT | GO:0005176 integrin binding                                   | 17 | 1.04579803  | 0.009726468 | 0.009726468 | 1361 | 105 | 16881 | 2.008166264 | 0.999998127 | 0.386419544  | 14.81532842 |
| 124 | Up | GOTERM_CC_DIRECT | GO:0003016 tubule   | 9  | 0.554817192 | 0.009900026 | 0.009900026 | 1477 | 38  | 18224 | 2.922282008 | 0.998166304 | 0.145786514  | 13.76900336 |
| 125 | Up | GOTERM_BP_DIRECT | GO:0031282 ERBB2 signaling pathway                            | 9  | 0.554817192 | 0.010112477 | 0.010112477 | 1366 | 38  | 16792 | 2.911487235 | 1           | 0.55052297   | 17.73438595 |



|     |    |                  |   |              |             |  |  |      |      |       |             |             |             |              |
|-----|----|------------------|---|--------------|-------------|--|--|------|------|-------|-------------|-------------|-------------|--------------|
| 150 | Up | GOTERM,CC,DIRECT | GO:0005822, intracellular   | 8.004626108  | 0.016776819 |  |  | 1477 | 1332 | 18224 | 1.204210384 | 0.999977677 | 0.216041167 | 22.25337368  |
| 151 | Up | GOTERM,CC,DIRECT | GO:0042391, specific granule  | 0.307881773  | 0.018223292 |  |  | 1477 | 13   | 18224 | 4.745581677 | 0.999977677 | 0.21343101  | 22.42432328  |
| 152 | Up | GOTERM,BP,DIRECT | GO:0007398, actin filament development                              | 0.307881773  | 0.017130344 |  |  | 1385 | 13   | 16792 | 4.720008911 | 0.999977677 | 0.668237699 | 27.07262587  |
| 153 | Up | GOTERM,CC,DIRECT | GO:0001772, immunological synapse                                   | 0.492610837  | 0.017424863 |  |  | 1477 | 34   | 18224 | 2.903182126 | 0.999985294 | 0.214862431 | 23.01225988  |
| 154 | Up | GOTERM,BP,DIRECT | GO:0008360, regulation of cell shape                                | 1.231927094  | 0.018817501 |  |  | 1386 | 140  | 16792 | 1.756117967 | 1           | 0.893606286 | 29.7338057   |
| 155 | Up | GOTERM,BP,DIRECT | GO:0032485, regulation of Rho protein signal transduction           | 0.184720064  | 0.0187381   |  |  | 1386 | 3    | 16792 | 12.29232577 | 1           | 0.8000239   | 29.88576615  |
| 156 | Up | GOTERM,MF,DIRECT | GO:0030505, myosin binding  | 0.3896458128 | 0.018794192 |  |  | 1381 | 20   | 16881 | 3.721013969 | 1           | 0.550955781 | 26.74307047  |
| 157 | Up | GOTERM,CC,DIRECT | GO:0042383, sarcolemma  | 0.826368966  | 0.018695664 |  |  | 1477 | 85   | 18224 | 2.032227468 | 0.999994168 | 0.226189251 | 24.66772771  |
| 158 | Up | GOTERM,MF,DIRECT | GO:0004622, metalloendopeptidase activity                           | 1.04679803   | 0.018884095 |  |  | 1381 | 113  | 16881 | 1.865995201 | 1           | 0.54128174  | 26.6530922   |
| 159 | Up | GOTERM,BP,DIRECT | GO:0033232, hippo signaling   | 0.431034483  | 0.019158501 |  |  | 1386 | 27   | 16792 | 3.187028903 | 1           | 0.893877518 | 30.45759975  |
| 160 | Up | GOTERM,BP,DIRECT | GO:0031032, actomyosin structure organization                       | 0.431034483  | 0.019158501 |  |  | 1386 | 27   | 16792 | 3.187028903 | 1           | 0.893877518 | 30.45759975  |
| 161 | Up | GOTERM,BP,DIRECT | GO:0048897, decidualization   | 0.3896458128 | 0.01947126  |  |  | 1386 | 20   | 16792 | 3.887847731 | 1           | 0.864827016 | 30.873393982 |
| 162 | Up | GOTERM,MF,DIRECT | GO:0005085, Rho guanyl-nucleotide exchange factor activity          | 0.800492811  | 0.019788819 |  |  | 1381 | 77   | 16881 | 2.094077121 | 1           | 0.546571809 | 27.88888891  |
| 163 | Up | GOTERM,CC,DIRECT | GO:0015267, brush border membrane                                   | 0.615763547  | 0.020704222 |  |  | 1477 | 51   | 18224 | 2.419316498 | 0.999997338 | 0.224651015 | 26.04348094  |
| 164 | Up | GOTERM,CC,DIRECT | GO:0008938, cell cortex   | 1.08874384   | 0.020710372 |  |  | 1477 | 123  | 18224 | 1.805637864 | 0.999988235 | 0.236880324 | 26.7544453   |
| 165 | Up | GOTERM,BP,DIRECT | GO:0030155, regulation of cell adhesion                             | 0.54187192   | 0.020442558 |  |  | 1386 | 43   | 16792 | 2.572917021 | 1           | 0.71639516  | 32.79472307  |
| 166 | Up | GOTERM,MF,DIRECT | GO:0029236, myosin heavy chain binding                              | 0.246505419  | 0.021471851 |  |  | 1381 | 8    | 16881 | 6.201689354 | 1           | 0.566819452 | 29.5464703   |
| 167 | Up | GOTERM,BP,DIRECT | GO:0008285, negative regulation of cell proliferation               | 2.776933961  | 0.021569786 |  |  | 1386 | 396  | 16792 | 1.388912019 | 1           | 0.72207903  | 35.58583745  |
| 168 | Up | GOTERM,CC,DIRECT | GO:0014731, spectrin-associated cytoskeleton                        | 0.246505419  | 0.021781954 |  |  | 1477 | 8    | 18224 | 6.189262018 | 0.999994117 | 0.243314191 | 27.93783866  |
| 169 | Up | GOTERM,BP,DIRECT | GO:0008450, condensed chromosome outer kinetochore                  | 0.246505419  | 0.021781954 |  |  | 1477 | 8    | 18224 | 6.189262018 | 0.999994117 | 0.243314191 | 27.93783866  |
| 170 | Up | GOTERM,BP,DIRECT | GO:0038850, striated muscle development                             | 0.246505419  | 0.021894289 |  |  | 1386 | 8    | 16792 | 6.146417884 | 1           | 0.724542352 | 34.13742325  |
| 171 | Up | GOTERM,BP,DIRECT | GO:0014732, postnatal muscle atrophy                                | 0.246505419  | 0.021894289 |  |  | 1386 | 8    | 16792 | 6.146417884 | 1           | 0.724542352 | 34.13742325  |
| 172 | Up | GOTERM,BP,DIRECT | GO:0050753, regulation of dendrite development                      | 0.307881773  | 0.021894289 |  |  | 1386 | 14   | 16792 | 4.390294977 | 1           | 0.721570048 | 34.75493341  |
| 173 | Up | GOTERM,BP,DIRECT | GO:0038833, regulation of actin filament polymerization             | 0.307881773  | 0.022469271 |  |  | 1386 | 14   | 16792 | 4.390294977 | 1           | 0.721570048 | 34.75493341  |
| 174 | Up | GOTERM,BP,DIRECT | GO:002481, positive regulation of protein oligomerization           | 0.307881773  | 0.022469271 |  |  | 1386 | 14   | 16792 | 4.390294977 | 1           | 0.721570048 | 34.75493341  |
| 175 | Up | GOTERM,BP,DIRECT | GO:0008337, regulation of muscle contraction                        | 0.307881773  | 0.022469271 |  |  | 1386 | 14   | 16792 | 4.390294977 | 1           | 0.721570048 | 34.75493341  |
| 176 | Up | GOTERM,BP,DIRECT | GO:0051056, regulation of small GTPase mediated signal transduction | 1.68950739   | 0.023707941 |  |  | 1386 | 134  | 16792 | 1.749017009 | 1           | 0.742130544 | 36.27048006  |
| 177 | Up | GOTERM,BP,DIRECT | GO:0045407, negative regulation of MAP kinase activity              | 0.492610837  | 0.023906828 |  |  | 1386 | 36   | 16792 | 2.79179006  | 1           | 0.74068834  | 36.51432537  |
| 178 | Up | GOTERM,BP,DIRECT | GO:0030855, epithelial cell differentiation                         | 0.738816256  | 0.025027448 |  |  | 1386 | 70   | 16792 | 2.10734156  | 1           | 0.752391028 | 37.86903768  |

|     |    |                  |  |    |             |             |      |     |       |              |              |              |
|-----|----|------------------|--|----|-------------|-------------|------|-----|-------|--------------|--------------|--------------|
| 179 | Up | GOTERM BP DIRECT | GO:0071300 cellular response to retinoic acid                            | 12 | 0.38616256  | 0.02927446  | 3866 | 70  | 16792 | 2.10734156   | 0.752397028  | 37.66603706  |
| 180 | Up | GOTERM CC DIRECT | GO:0016232 lateral plasma membrane                                       | 10 | 0.61576347  | 0.025318413 | 1477 | 53  | 18224 | 2.282023403  | 0.99999991   | 31.71798939  |
| 181 | Up | GOTERM BP DIRECT | GO:0006887 cytoplasmic metabolic process                                 | 9  | 0.554817192 | 0.028887853 | 1366 | 45  | 16792 | 2.448656514  | 0.774241054  | 37.12339573  |
| 182 | Up | GOTERM BP DIRECT | GO:0034602 cytoplasmic response to heat                                  | 8  | 0.492610837 | 0.027482391 | 1366 | 37  | 16792 | 2.057908274  | 0.719284438  | 40.74240692  |
| 183 | Up | GOTERM BP DIRECT | GO:0007162 negative regulation of cell adhesion                          | 8  | 0.492610837 | 0.027482391 | 1366 | 37  | 16792 | 2.057908274  | 0.719284438  | 40.74240692  |
| 184 | Up | GOTERM MF DIRECT | GO:0008232 peptidase activity  | 14 | 0.826368666 | 0.027850393 | 1361 | 90  | 16881 | 1.929414646  | 0.653000517  | 37.071985174 |
| 185 | Up | GOTERM BP DIRECT | GO:0064441 epithelial tube branching involved in lung morphogenesis      | 5  | 0.307881173 | 0.028213071 | 1366 | 15  | 16792 | 4.007606959  | 0.787013138  | 42.13412559  |
| 186 | Up | GOTERM BP DIRECT | GO:0042029 protein refolding   | 5  | 0.307881173 | 0.028213071 | 1366 | 15  | 16792 | 4.007606959  | 0.787013138  | 42.13412559  |
| 187 | Up | GOTERM BP DIRECT | GO:0007140 male meiosis  | 6  | 0.368458128 | 0.028640728 | 1366 | 22  | 16792 | 3.352586846  | 0.7870281955 | 42.34742158  |
| 188 | Up | GOTERM BP DIRECT | GO:0007049 cell cycle  | 27 | 1.682361576 | 0.029661408 | 1366 | 217 | 16792 | 1.5295221    | 0.790022954  | 43.18586411  |
| 189 | Up | GOTERM BP DIRECT | GO:0010595 positive regulation of endothelial cell migration             | 9  | 0.541871192 | 0.030423171 | 1366 | 46  | 16792 | 2.405118085  | 0.79461294   | 44.0776392   |
| 190 | Up | GOTERM CC DIRECT | GO:0005912 zonula adherens   | 4  | 0.248205419 | 0.030735339 | 1477 | 9   | 18224 | 5.48278848   | 0.999999997  | 0.316148137  |
| 191 | Up | GOTERM CC DIRECT | GO:0005911 desmosome   | 4  | 0.248205419 | 0.030735339 | 1477 | 9   | 18224 | 5.48278848   | 0.999999997  | 0.316148137  |
| 192 | Up | GOTERM CC DIRECT | GO:0030656 transport vesicle membrane                                    | 8  | 0.492610837 | 0.030976877 | 1477 | 38  | 18224 | 2.597584007  | 0.37427538   | 37.28155037  |
| 193 | Up | GOTERM BP DIRECT | GO:0006704 microtubule biosynthetic process                              | 4  | 0.248205419 | 0.031028223 | 1366 | 0   | 16792 | 5.4834278119 | 0.797350677  | 44.6688931   |
| 194 | Up | GOTERM BP DIRECT | GO:0045124 regulation of gene expression                                 | 4  | 0.248205419 | 0.031028223 | 1366 | 0   | 16792 | 5.4834278119 | 0.797350677  | 44.6688931   |
| 195 | Up | GOTERM BP DIRECT | GO:0058874 regulation of enzyme organization                             | 4  | 0.248205419 | 0.031028223 | 1366 | 0   | 16792 | 5.4834278119 | 0.797350677  | 44.6688931   |
| 196 | Up | GOTERM BP DIRECT | GO:1892884 negative regulation of protein-mRNA transcription             | 4  | 0.248205419 | 0.031028223 | 1366 | 0   | 16792 | 5.4834278119 | 0.797350677  | 44.6688931   |
| 197 | Up | GOTERM BP DIRECT | GO:0013871 positive regulation of protein transport                      | 4  | 0.248205419 | 0.031028223 | 1366 | 0   | 16792 | 5.4834278119 | 0.797350677  | 44.6688931   |
| 198 | Up | GOTERM BP DIRECT | GO:0060315 positive regulation of cytoskeleton-sensitive calcium release | 4  | 0.248205419 | 0.031028223 | 1366 | 0   | 16792 | 5.4834278119 | 0.797350677  | 44.6688931   |
| 199 | Up | GOTERM BP DIRECT | GO:0045773 positive regulation of axon extension                         | 7  | 0.431034463 | 0.031298359 | 1366 | 30  | 16792 | 2.868226013  | 0.795882533  | 44.89604115  |
| 200 | Up | GOTERM BP DIRECT | GO:0030622 intracellular receptor signaling pathway                      | 8  | 0.492610837 | 0.031465365 | 1366 | 38  | 16792 | 2.597584007  | 0.793958801  | 45.07287069  |
| 201 | Up | GOTERM CC DIRECT | GO:0031671 band  | 6  | 0.368458128 | 0.034795927 | 1477 | 23  | 18224 | 3.31874654   | 0.333336604  | 40.28515185  |
| 202 | Up | GOTERM CC DIRECT | GO:0005880 anaphase-promoting complex                                    | 6  | 0.368458128 | 0.034795927 | 1477 | 23  | 18224 | 3.31874654   | 0.333336604  | 40.28515185  |
| 203 | Up | GOTERM BP DIRECT | GO:0031100 organ regeneration  | 9  | 0.541871192 | 0.034146754 | 1366 | 47  | 16792 | 2.35394536   | 0.817477393  | 47.91966335  |
| 204 | Up | GOTERM CC DIRECT | GO:0030827 lamellipodium   | 21 | 1.831034448 | 0.034338382 | 1477 | 160 | 18224 | 1.61843128   | 0.331126293  | 40.53959344  |
| 205 | Up | GOTERM MF DIRECT | GO:0005154 epidermal growth factor receptor binding                      | 7  | 0.431034463 | 0.034818891 | 1361 | 31  | 16881 | 2.800763196  | 0.725306159  | 44.08169315  |
| 206 | Up | GOTERM MF DIRECT | GO:0041115 Trans-1,2-allylcholesterol biosynthesis                       | 3  | 0.184729064 | 0.034868058 | 1361 | 4   | 16881 | 9.302534401  | 0.716321086  | 44.12861211  |
| 207 | Up | GOTERM MF DIRECT | GO:0018852 phospholipase binding   | 3  | 0.184729064 | 0.034868058 | 1361 | 4   | 16881 | 9.302534401  | 0.716321086  | 44.12861211  |
| 208 | Up | GOTERM MF DIRECT | GO:0018834 phospholipase A2 inhibitor activity                           | 3  | 0.184729064 | 0.034868058 | 1361 | 4   | 16881 | 9.302534401  | 0.716321086  | 44.12861211  |
| 209 | Up | GOTERM MF DIRECT | GO:0017042 GTP-Rho binding   | 5  | 0.307881173 | 0.034870118 | 1361 | 16  | 16881 | 3.760562020  | 0.707028588  | 44.13053543  |
| 210 | Up | GOTERM MF DIRECT | GO:0070300 phosphatidic acid binding                                     | 3  | 0.184729064 | 0.035200729 | 1361 | 10  | 16881 | 3.760562020  | 0.707028588  | 44.13053543  |
| 211 | Up | GOTERM CC DIRECT | GO:0000942 condensed nuclear chromosome outer kinetochore                | 3  | 0.184729064 | 0.035200729 | 1361 | 10  | 16881 | 3.760562020  | 0.707028588  | 44.13053543  |
| 212 | Up | GOTERM BP DIRECT | GO:0070164 negative regulation of adiponectin secretion                  | 3  | 0.184729064 | 0.035462424 | 1366 | 4   | 16792 | 9.219818327  | 0.825911045  | 49.23576864  |
| 213 | Up | GOTERM BP DIRECT | GO:0042804 cis-retinoic acid biosynthetic process                        | 3  | 0.184729064 | 0.035462424 | 1366 | 4   | 16792 | 9.219818327  | 0.825911045  | 49.23576864  |
| 214 | Up | GOTERM BP DIRECT | GO:0072327 regulation of T cell apoptotic process                        | 3  | 0.184729064 | 0.035462424 | 1366 | 4   | 16792 | 9.219818327  | 0.825911045  | 49.23576864  |
| 215 | Up | GOTERM BP DIRECT | GO:0031377 spindle checkpoint  | 3  | 0.184729064 | 0.035462424 | 1366 | 4   | 16792 | 9.219818327  | 0.825911045  | 49.23576864  |
| 216 | Up | GOTERM BP DIRECT | GO:0043622 cortical microtubule organization                             | 3  | 0.184729064 | 0.035462424 | 1366 | 4   | 16792 | 9.219818327  | 0.825911045  | 49.23576864  |
| 217 | Up | GOTERM BP DIRECT | GO:0006705 microtubule biosynthetic process                              | 3  | 0.184729064 | 0.035462424 | 1366 | 4   | 16792 | 9.219818327  | 0.825911045  | 49.23576864  |
| 218 | Up | GOTERM BP DIRECT | GO:0007172 epidermal growth factor receptor signaling pathway            | 10 | 0.61576347  | 0.035867068 | 1366 | 56  | 16792 | 2.195147459  | 0.822666109  | 49.38880391  |
| 219 | Up | GOTERM BP DIRECT | GO:0002828 positive regulation of calcium ion import                     | 5  | 0.307881173 | 0.035884672 | 1366 | 16  | 16792 | 3.841508653  | 0.822666109  | 49.38880391  |
| 220 | Up | GOTERM BP DIRECT | GO:0006885 regulation of pH  | 5  | 0.307881173 | 0.035884672 | 1366 | 16  | 16792 | 3.841508653  | 0.822666109  | 49.38880391  |
| 221 | Up | GOTERM BP DIRECT | GO:0030308 negative regulation of cell growth                            | 17 | 1.04679803  | 0.035953088 | 1366 | 121 | 16792 | 1.7271091224 | 0.820260338  | 49.7184813   |
| 222 | Up | GOTERM BP DIRECT | GO:0043627 response to estrogen  | 11 | 0.67339801  | 0.03613167  | 1366 | 65  | 16792 | 2.808242361  | 0.818544468  | 49.53039895  |
| 223 | Up | GOTERM MF DIRECT | GO:0005044 scavenger receptor activity                                   | 9  | 0.541871192 | 0.036847225 | 1361 | 48  | 16881 | 2.825633725  | 0.714335746  | 45.63243615  |
| 224 | Up | GOTERM BP DIRECT | GO:0018221 cytokine-mediated signaling pathway                           | 18 | 1.08374384  | 0.036863167 | 1366 | 131 | 16792 | 1.689900564  | 0.819642137  | 50.2790075   |
| 225 | Up | GOTERM MF DIRECT | GO:0044325 T cell chemokine binding                                      | 16 | 0.895221675 | 0.037553428 | 1361 | 113 | 16881 | 1.756230778  | 0.716176026  | 46.82447203  |
| 226 | Up | GOTERM BP DIRECT | GO:0006935 chemotaxis  | 17 | 1.04679803  | 0.038384826 | 1366 | 122 | 16792 | 1.712834789  | 0.831000611  | 52.0470879   |
| 227 | Up | GOTERM CC DIRECT | GO:0001102 podosome  | 6  | 0.368458128 | 0.040286952 | 1477 | 24  | 18224 | 3.084631009  | 0.368462584  | 45.74083471  |







|     |    |                  |   |    |             |             |  |      |     |       |             |             |             |
|-----|----|------------------|---|----|-------------|-------------|--|------|-----|-------|-------------|-------------|-------------|
| 301 | Up | GOTERM:BP:DIRECT | GO:0045844 positive regulation of transcription from RNA polymerase II promoter | 94 | 5.76817734  | 0.065467807 | A23 P161024, A23 P11194, A23 P35847, A23 P211483, A23 P143694, A23 P377880, A23 P233488, A23 P253126, A23 P121011, A23 P386822, A23 P122137, A23 P130488, A23 P156049, A23 P161439, A23 P416946, A23 P126735, A23 P143024, A23 P160438, A23 P19824, A23 P4751074, A23 P104788, A23 P34620, A23 P103110, A23 P414380, A23 P32233, A23 P465579, A23 P133588, A23 P52067, A23 P107175, A23 P143190, A23 P42386, A23 P18209, A23 P76078, A23 P73288, A23 P395830, A23 P386566, A23 P426683, A23 P500985, A23 P123408, A23 P374944, A23 P218597, A23 P102062, A23 P373598, A23 P154507, A23 P59515, A23 P118234, A23 P213336, A23 P394643, A23 P173345, A23 P128074, A23 P10748, A23 P209880, A23 P29898, A23 P390049, A23 P72086, A23 P11134, A23 P31081, A23 P46428, A23 P29789, A23 P28210, A23 P46558, A23 P59571, A23 P41167, A23 P734666, A23 P29184, A23 P12032, A23 P256205, A23 P218915, A23 P104188, A23 P388325, A23 P25616, A23 P44402, A23 P143397, A23 P28200, A23 P252106, A23 P38515, A23 P214821, A23 P350683, A23 P37121, A23 P109072, A23 P342886, A23 P35796, A23 P207842, A23 P26969, A23 P73429, A23 P118834, A23 P26847, A23 P63328, A23 P159851, A23 P151150, A23 P112159, A23 P118478, A23 P51126, A23 P18677, A23 P10065, A23 P156289, A23 P34066, A23 P3316, A23 P60001, A23 P83328, A23 P10531, A23 P397238, A23 P2301097, A23 P282324, A23 P201153, A23 P52933, A23 P418142, A23 P250302, A23 P16297, A23 P155900, A23 P207911, A23 P18377, A23 P231617, A23 P106382, A23 P374686, A23 P111935, A23 P254079, A23 P321068, A23 P17134, A23 P19392, A23 P241182, A23 P102960, A23 P183320, A23 P18248, A23 P116481, A23 P38951, A23 P105607, A23 P207106, A23 P19143, A23 P263901, A23 P16282, A23 P41884, A23 P16151, A23 P56364, A23 P11141, A23 P30937, A23 P37042, A23 P192378, A23 P49491, A23 P353870, A23 P148539, A23 P2344838, A23 P30647, A23 P133095, A23 P160167, A23 P30077, A23 P10983, A23 P17583, A23 P416747, A23 P897886, A23 P3448116, A23 P31717, A23 P27917, A23 P46616, A23 P18725, A23 P13381, A23 P39828, A23 P137856, A23 P385190, A23 P123822, A23 P5064, A23 P207507, A23 P49892, A23 P66423, A23 P51680, A23 P391081, A23 P76880, A23 P120683, A23 P208389, A23 P336118, A23 P103398, A23 P18751, A23 P206626, A23 P16468, A23 P15380, A23 P385721, A23 P377291, A23 P146512, A23 P11978, A23 P368812, A23 P152955, A23 P148047, A23 P386702, A23 P206047, A23 P167129, A23 P209482, A23 P18880, A23 P156655, A23 P387899, A23 P18535, A23 P200219, A23 P218442, A23 P17826, A23 P107587, A23 P45424, A23 P41344, A23 P155487, A23 P19408, A23 P407585, A23 P148711, A23 P161076, A23 P350683, A23 P371729, A23 P194081, A23 P363988, A23 P104705, A23 P489310, A23 P266101, A23 P44123, A23 P64860, A23 P131485, A23 P137434, A23 P2515060, A23 P253682, A23 P10731, A23 P13228, A23 P51823, A23 P270030, A23 P21276, A23 P41369, A23 P268300, A23 P37376, A23 P49501, A23 P106389, A23 P12706, A23 P13886, A23 P23835, A23 P411157, A23 P19663, A23 P48717, A23 P339944, A23 P411157, A23 P18633, A23 P126325, A23 P340134, A23 P1344, A23 P423230, A23 P14681, A23 P283948, A23 P41344, A23 P4748, A23 P243230, A23 P30478, A23 P76078, A23 P41344, A23 P49667, A23 P340951, A23 P142831, A23 P238170, A23 P359728, A23 P416747, A23 P282324, A23 P7015, A23 P122637, A23 P206417, A23 P56709, A23 P403335, A23 P12933, A23 P466545, A23 P30471, A23 P15590, A23 P404481, A23 P10983, A23 P49371, A23 P134935, A23 P110712, A23 P24129, A23 P150018, A23 P97529, A23 P19590, A23 P72096, A23 P1824, A23 P403335, A23 P30077, A23 P20771, A23 P2197, A23 P23114, A23 P16684, A23 P7095, A23 P41344, A23 P15722, A23 P26248, A23 P14845, A23 P58321, A23 P53944, A23 P411157, A23 P16285, A23 P16980, A23 P15807, A23 P161615, A23 P7002, A23 P13385, A23 P29836, A23 P56166, A23 P49661, A23 P46869, A23 P10334, A23 P218442, A23 P154508, A23 P152873, A23 P72095, A23 P1691, A23 P38219, A23 P109314, A23 P15300, A23 P1574895, A23 P374869, A23 P207985, A23 P16392, A23 P215080, A23 P161076, A23 P259883, A23 P188725, A23 P232231, A23 P18897, A23 P19438, A23 P32233, A23 P12159, A23 P2321, A23 P21022, A23 P59530, A23 P12159, A23 P401106, A23 P51126, A23 P13381, A23 P14847, A23 P18800, A23 P38763, A23 P40298, A23 P1751074, A23 P207584, A23 P145098, A23 P161076, A23 P23251, A23 P497271, A23 P41344, A23 P33729, A23 P48416, A23 P14769, A23 P51297, A23 P38501, A23 P37127, A23 P257743, A23 P21966, A23 P11815, A23 P30693, A23 P49486, A23 P18641, A23 P19331, A23 P154526, A23 P16643, A23 P15727, A23 P14373, A23 P48094, A23 P6824, A23 P37144, A23 P25847, A23 P15111, A23 P60311, A23 P294850, A23 P6281, A23 P152985, A23 P21286, A23 P11398, A23 P10166, A23 P28769, A23 P50976, A23 P20000, A23 P13318, A23 P303389, A23 P60739, A23 P53183, A23 P426810, A23 P394395, A23 P106381, A23 P259008, A23 P426810, A23 P18186, A23 P31886, A23 P259008, A23 P106381, A23 P410716, A23 P104798, A23 P2352973, A23 P134100, A23 P161076, A23 P161076, A23 P104798, A23 P142118, A23 P101656, A23 P12463, A23 P218918, A23 P105957, A23 P339944, A23 P374516, A23 P150809, A23 P40215 | 1366 | 981 | 16792 | 1.177905833 | 0.916762411 | 71.95579359 |
| 302 | Up | GOTERM:MF:DIRECT | GO:0004898 cytokine receptor activity   | 7  | 0.431034483 | 0.065864725 | A23 P18478, A23 P51126, A23 P18677, A23 P10065, A23 P156289, A23 P34066, A23 P3316, A23 P60001, A23 P83328, A23 P10531, A23 P397238, A23 P2301097, A23 P282324, A23 P201153, A23 P52933, A23 P418142, A23 P250302, A23 P16297, A23 P155900, A23 P207911, A23 P18377, A23 P231617, A23 P106382, A23 P374686, A23 P111935, A23 P254079, A23 P321068, A23 P17134, A23 P19392, A23 P241182, A23 P102960, A23 P183320, A23 P18248, A23 P116481, A23 P38951, A23 P105607, A23 P207106, A23 P19143, A23 P263901, A23 P16282, A23 P41884, A23 P16151, A23 P56364, A23 P11141, A23 P30937, A23 P37042, A23 P192378, A23 P49491, A23 P353870, A23 P148539, A23 P2344838, A23 P30647, A23 P133095, A23 P160167, A23 P30077, A23 P10983, A23 P17583, A23 P416747, A23 P897886, A23 P3448116, A23 P31717, A23 P27917, A23 P46616, A23 P18725, A23 P13381, A23 P39828, A23 P137856, A23 P385190, A23 P123822, A23 P5064, A23 P207507, A23 P49892, A23 P66423, A23 P51680, A23 P391081, A23 P76880, A23 P120683, A23 P208389, A23 P336118, A23 P103398, A23 P18751, A23 P206626, A23 P16468, A23 P15380, A23 P385721, A23 P377291, A23 P146512, A23 P11978, A23 P368812, A23 P152955, A23 P148047, A23 P386702, A23 P206047, A23 P167129, A23 P209482, A23 P18880, A23 P156655, A23 P387899, A23 P18535, A23 P200219, A23 P218442, A23 P17826, A23 P107587, A23 P45424, A23 P41344, A23 P155487, A23 P19408, A23 P407585, A23 P148711, A23 P161076, A23 P350683, A23 P371729, A23 P194081, A23 P363988, A23 P104705, A23 P489310, A23 P266101, A23 P44123, A23 P64860, A23 P131485, A23 P137434, A23 P2515060, A23 P253682, A23 P10731, A23 P13228, A23 P51823, A23 P270030, A23 P21276, A23 P41369, A23 P268300, A23 P37376, A23 P49501, A23 P106389, A23 P12706, A23 P13886, A23 P23835, A23 P411157, A23 P19663, A23 P48717, A23 P339944, A23 P411157, A23 P18633, A23 P126325, A23 P340134, A23 P1344, A23 P423230, A23 P14681, A23 P283948, A23 P41344, A23 P4748, A23 P243230, A23 P30478, A23 P76078, A23 P41344, A23 P49667, A23 P340951, A23 P142831, A23 P238170, A23 P359728, A23 P416747, A23 P282324, A23 P7015, A23 P122637, A23 P206417, A23 P56709, A23 P403335, A23 P12933, A23 P466545, A23 P30471, A23 P15590, A23 P404481, A23 P10983, A23 P49371, A23 P134935, A23 P110712, A23 P24129, A23 P150018, A23 P97529, A23 P19590, A23 P72096, A23 P1824, A23 P403335, A23 P30077, A23 P20771, A23 P2197, A23 P23114, A23 P16684, A23 P7095, A23 P41344, A23 P15722, A23 P26248, A23 P14845, A23 P58321, A23 P53944, A23 P411157, A23 P16285, A23 P16980, A23 P15807, A23 P161615, A23 P7002, A23 P13385, A23 P29836, A23 P56166, A23 P49661, A23 P46869, A23 P10334, A23 P218442, A23 P154508, A23 P152873, A23 P72095, A23 P1691, A23 P38219, A23 P109314, A23 P15300, A23 P1574895, A23 P374869, A23 P207985, A23 P16392, A23 P215080, A23 P161076, A23 P259883, A23 P188725, A23 P232231, A23 P18897, A23 P19438, A23 P32233, A23 P12159, A23 P401106, A23 P51126, A23 P13381, A23 P14847, A23 P18800, A23 P38763, A23 P40298, A23 P1751074, A23 P207584, A23 P145098, A23 P161076, A23 P23251, A23 P497271, A23 P41344, A23 P33729, A23 P48416, A23 P14769, A23 P51297, A23 P38501, A23 P37127, A23 P257743, A23 P21966, A23 P11815, A23 P30693, A23 P49486, A23 P18641, A23 P19331, A23 P154526, A23 P16643, A23 P15727, A23 P14373, A23 P48094, A23 P6824, A23 P37144, A23 P25847, A23 P15111, A23 P60311, A23 P294850, A23 P6281, A23 P152985, A23 P21286, A23 P11398, A23 P10166, A23 P28769, A23 P50976, A23 P20000, A23 P13318, A23 P303389, A23 P60739, A23 P53183, A23 P426810, A23 P394395, A23 P106381, A23 P259008, A23 P426810, A23 P18186, A23 P31886, A23 P259008, A23 P106381, A23 P410716, A23 P104798, A23 P2352973, A23 P134100, A23 P161076, A23 P161076, A23 P104798, A23 P142118, A23 P101656, A23 P12463, A23 P218918, A23 P105957, A23 P339944, A23 P374516, A23 P150809, A23 P40215   | 1366 | 36  | 16881 | 2.411766306 | 0.817468906 | 67.1765896  |
| 303 | Up | GOTERM:MF:DIRECT | GO:0041851 activin binding  | 4  | 0.246305419 | 0.086259217 | A23 P18478, A23 P51126, A23 P18677, A23 P10065, A23 P156289, A23 P34066, A23 P3316, A23 P60001, A23 P83328, A23 P10531, A23 P397238, A23 P2301097, A23 P282324, A23 P201153, A23 P52933, A23 P418142, A23 P250302, A23 P16297, A23 P155900, A23 P207911, A23 P18377, A23 P231617, A23 P106382, A23 P374686, A23 P111935, A23 P254079, A23 P321068, A23 P17134, A23 P19392, A23 P241182, A23 P102960, A23 P183320, A23 P18248, A23 P116481, A23 P38951, A23 P105607, A23 P207106, A23 P19143, A23 P263901, A23 P16282, A23 P41884, A23 P16151, A23 P56364, A23 P11141, A23 P30937, A23 P37042, A23 P192378, A23 P49491, A23 P353870, A23 P148539, A23 P2344838, A23 P30647, A23 P133095, A23 P160167, A23 P30077, A23 P10983, A23 P17583, A23 P416747, A23 P897886, A23 P3448116, A23 P31717, A23 P27917, A23 P46616, A23 P18725, A23 P13381, A23 P39828, A23 P137856, A23 P385190, A23 P123822, A23 P5064, A23 P207507, A23 P49892, A23 P66423, A23 P51680, A23 P391081, A23 P76880, A23 P120683, A23 P208389, A23 P336118, A23 P103398, A23 P18751, A23 P206626, A23 P16468, A23 P15380, A23 P385721, A23 P377291, A23 P146512, A23 P11978, A23 P368812, A23 P152955, A23 P148047, A23 P386702, A23 P206047, A23 P167129, A23 P209482, A23 P18880, A23 P156655, A23 P387899, A23 P18535, A23 P200219, A23 P218442, A23 P17826, A23 P107587, A23 P45424, A23 P41344, A23 P155487, A23 P19408, A23 P407585, A23 P148711, A23 P161076, A23 P350683, A23 P371729, A23 P194081, A23 P363988, A23 P104705, A23 P489310, A23 P266101, A23 P44123, A23 P64860, A23 P131485, A23 P137434, A23 P2515060, A23 P253682, A23 P10731, A23 P13228, A23 P51823, A23 P270030, A23 P21276, A23 P41369, A23 P268300, A23 P37376, A23 P49501, A23 P106389, A23 P12706, A23 P13886, A23 P23835, A23 P411157, A23 P19663, A23 P48717, A23 P339944, A23 P411157, A23 P18633, A23 P126325, A23 P340134, A23 P1344, A23 P423230, A23 P14681, A23 P283948, A23 P41344, A23 P4748, A23 P243230, A23 P30478, A23 P76078, A23 P41344, A23 P49667, A23 P340951, A23 P142831, A23 P238170, A23 P359728, A23 P416747, A23 P282324, A23 P7015, A23 P122637, A23 P206417, A23 P56709, A23 P403335, A23 P12933, A23 P466545, A23 P30471, A23 P15590, A23 P404481, A23 P10983, A23 P49371, A23 P134935, A23 P110712, A23 P24129, A23 P150018, A23 P97529, A23 P19590, A23 P72096, A23 P1824, A23 P403335, A23 P30077, A23 P20771, A23 P2197, A23 P23114, A23 P16684, A23 P7095, A23 P41344, A23 P15722, A23 P26248, A23 P14845, A23 P58321, A23 P53944, A23 P411157, A23 P16285, A23 P16980, A23 P15807, A23 P161615, A23 P7002, A23 P13385, A23 P29836, A23 P56166, A23 P49661, A23 P46869, A23 P10334, A23 P218442, A23 P154508, A23 P152873, A23 P72095, A23 P1691, A23 P38219, A23 P109314, A23 P15300, A23 P1574895, A23 P374869, A23 P207985, A23 P16392, A23 P215080, A23 P161076, A23 P259883, A23 P188725, A23 P232231, A23 P18897, A23 P19438, A23 P32233, A23 P12159, A23 P401106, A23 P51126, A23 P13381, A23 P14847, A23 P18800, A23 P38763, A23 P40298, A23 P1751074, A23 P207584, A23 P145098, A23 P161076, A23 P23251, A23 P497271, A23 P41344, A23 P33729, A23 P48416, A23 P14769, A23 P51297, A23 P38501, A23 P37127, A23 P257743, A23 P21966, A23 P11815, A23 P30693, A23 P49486, A23 P18641, A23 P19331, A23 P154526, A23 P16643, A23 P15727, A23 P14373, A23 P48094, A23 P6824, A23 P37144, A23 P25847, A23 P15111, A23 P60311, A23 P294850, A23 P6281, A23 P152985, A23 P21286, A23 P11398, A23 P10166, A23 P28769, A23 P50976, A23 P20000, A23 P13318, A23 P303389, A23 P60739, A23 P53183, A23 P426810, A23 P394395, A23 P106381, A23 P259008, A23 P426810, A23 P18186, A23 P31886, A23 P259008, A23 P106381, A23 P410716, A23 P104798, A23 P2352973, A23 P134100, A23 P161076, A23 P161076, A23 P104798, A23 P142118, A23 P101656, A23 P12463, A23 P218918, A23 P105957, A23 P339944, A23 P374516, A23 P150809, A23 P40215   | 1361 | 12  | 16881 | 4.134458956 | 0.819305722 | 67.51746807 |
| 304 | Up | GOTERM:MF:DIRECT | GO:0004385 guanylate kinase activity  | 4  | 0.246305419 | 0.086259217 | A23 P18478, A23 P51126, A23 P18677, A23 P10065, A23 P156289, A23 P34066, A23 P3316, A23 P60001, A23 P83328, A23 P10531, A23 P397238, A23 P2301097, A23 P282324, A23 P201153, A23 P52933, A23 P418142, A23 P250302, A23 P16297, A23 P155900, A23 P207911, A23 P18377, A23 P231617, A23 P106382, A23 P374686, A23 P111935, A23 P254079, A23 P321068, A23 P17134, A23 P19392, A23 P241182, A23 P102960, A23 P183320, A23 P18248, A23 P116481, A23 P38951, A23 P105607, A23 P207106, A23 P19143, A23 P263901, A23 P16282, A23 P41884, A23 P16151, A23 P56364, A23 P11141, A23 P30937, A23 P37042, A23 P192378, A23 P49491, A23 P353870, A23 P148539, A23 P2344838, A23 P30647, A23 P133095, A23 P160167, A23 P30077, A23 P10983, A23 P17583, A23 P416747, A23 P897886, A23 P3448116, A23 P31717, A23 P27917, A23 P46616, A23 P18725, A23 P13381, A23 P39828, A23 P137856, A23 P385190, A23 P123822, A23 P5064, A23 P207507, A23 P49892, A23 P66423, A23 P51680, A23 P391081, A23 P76880, A23 P120683, A23 P208389, A23 P336118, A23 P103398, A23 P18751, A23 P206626, A23 P16468, A23 P15380, A23 P385721, A23 P377291, A23 P146512, A23 P11978, A23 P368812, A23 P152955, A23 P148047, A23 P386702, A23 P206047, A23 P167129, A23 P209482, A23 P18880, A23 P156655, A23 P387899, A23 P18535, A23 P200219, A23 P218442, A23 P17826, A23 P107587, A23 P45424, A23 P41344, A23 P155487, A23 P19408, A23 P407585, A23 P148711, A23 P161076, A23 P350683, A23 P371729, A23 P1940   |      |     |       |             |             |             |



| No. | Gene regulation | Category         | Term   | Count | %           | PValue      | Link Total | Pop. Hits | Pop. Total | Fold Enrichment | Benferroni | Bayhamiti | FDR         |
|-----|-----------------|------------------|--|-------|-------------|-------------|------------|-----------|------------|-----------------|------------|-----------|-------------|
| 369 | Up              | GOTERM.MF.DIRECT | GO:0004652 hydrolase activity, hydrolyzing O <sub>2</sub> -phosphoryl compound | 6     | 0.39458128  | 0.089240262 | 1361       | 30        | 16881      | 2.480675974     |            |           | 0.860170472 |
| 370 | Up              | GOTERM.BP.DIRECT | GO:0098555 anion transmembrane transport                                       | 6     | 0.39458128  | 0.081824721 | 1366       | 30        | 16792      | 2.458565154     |            |           | 0.946072302 |
| 371 | Up              | GOTERM.BP.DIRECT | GO:0050777 non ion homeostasis   | 6     | 0.39458128  | 0.081824721 | 1366       | 30        | 16792      | 2.458565154     |            |           | 0.946072302 |
| 372 | Up              | GOTERM.BP.DIRECT | GO:0051017 actin filament bundle assembly                                      | 6     | 0.39458128  | 0.081824721 | 1366       | 30        | 16792      | 2.458565154     |            |           | 0.946072302 |
| 373 | Up              | GOTERM.CO.DIRECT | GO:0000777 condensed chromosome kinetochore                                    | 12    | 0.738818256 | 0.091824721 | 1477       | 87        | 18224      | 1.701865384     |            |           | 0.96045599  |
| 374 | Up              | GOTERM.BP.DIRECT | GO:0000187 activation of MAPK activity   | 14    | 0.82636866  | 0.093268738 | 1366       | 107       | 16792      | 1.60840711      |            |           | 0.946321403 |
| 375 | Up              | GOTERM.CO.DIRECT | GO:0000138 Golgi membrane  | 58    | 3.571428571 | 0.095553945 | 1477       | 591       | 18224      | 1.2108873       |            |           | 0.579454949 |
| 376 | Up              | GOTERM.MF.DIRECT | GO:0004682 calmodulin-dependent protein kinase activity                        | 5     | 0.307881773 | 0.095837291 | 1361       | 22        | 16881      | 2.81894997      |            |           | 0.854356644 |
| 377 | Up              | GOTERM.BP.DIRECT | GO:0051259 protein oligomerization   | 9     | 0.544187192 | 0.095950676 | 1366       | 58        | 16792      | 1.907507447     |            |           | 0.961384222 |
| 378 | Up              | GOTERM.MF.DIRECT | GO:0008022 protein C-terminus binding  | 21    | 1.283103448 | 0.096413854 | 1361       | 182       | 16881      | 1.431158216     |            |           | 0.881989415 |
| 379 | Up              | GOTERM.CO.DIRECT | GO:0031234 extrinsic component of cytoplasmic side of plasma                   | 10    | 0.615783547 | 0.096845996 | 1477       | 68        | 18224      | 1.814488829     |            |           | 0.576718109 |
| 380 | Up              | GOTERM.CO.DIRECT | GO:0051720 nuclear heterochromatin   | 5     | 0.307881773 | 0.097206688 | 1361       | 22        | 16881      | 2.804210003     |            |           | 0.860292983 |
| 381 | Up              | GOTERM.MF.DIRECT | GO:0031432 ion binding   | 4     | 0.248205419 | 0.097338255 | 1361       | 14        | 16881      | 3.543822819     |            |           | 0.880292983 |
| 382 | Up              | GOTERM.MF.DIRECT | GO:0053232 transmembrane binding   | 4     | 0.248205419 | 0.097338255 | 1361       | 14        | 16881      | 3.543822819     |            |           | 0.880292983 |
| 383 | Up              | GOTERM.BP.DIRECT | GO:0010711 negative regulation of epithelial to mesenchymal                    | 5     | 0.307881773 | 0.098291078 | 1366       | 22        | 16792      | 2.793824038     |            |           | 0.954056133 |
| 384 | Up              | GOTERM.BP.DIRECT | GO:0032465 regulation of cytokinesis   | 5     | 0.307881773 | 0.098291078 | 1366       | 22        | 16792      | 2.793824038     |            |           | 0.954056133 |
| 385 | Up              | GOTERM.BP.DIRECT | GO:0010842 extracellular layer formation                                       | 5     | 0.307881773 | 0.098291078 | 1366       | 22        | 16792      | 2.793824038     |            |           | 0.954056133 |
| 386 | Up              | GOTERM.MF.DIRECT | GO:0001502 cartilage maturation  | 5     | 0.307881773 | 0.098291078 | 1366       | 22        | 16792      | 2.793824038     |            |           | 0.954056133 |
| 387 | Up              | GOTERM.MF.DIRECT | GO:0048385 Rec. GTPase binding   | 7     | 0.431034483 | 0.098866664 | 1361       | 40        | 16881      | 2.170591477     |            |           | 0.881243086 |
| 388 | Up              | GOTERM.CO.DIRECT | GO:0043234 protein complex   | 42    | 2.586206897 | 0.099317814 | 1477       | 412       | 18224      | 1.257810703     |            |           | 0.576801885 |
| 389 | Up              | GOTERM.BP.DIRECT | GO:0006955 immune response   | 43    | 2.47783251  | 0.099320384 | 1366       | 421       | 16792      | 1.255561777     |            |           | 0.954646519 |
| 390 | Up              | GOTERM.BP.DIRECT | GO:0001516 prostaglandin biosynthetic process                                  | 4     | 0.248205419 | 0.099384452 | 1366       | 14        | 16792      | 3.512235854     |            |           | 0.853798825 |
| 391 | Up              | GOTERM.BP.DIRECT | GO:0000139 nucleobase-containing compound metabolic proc                       | 8     | 0.402610837 | 0.099869828 | 1366       | 49        | 16792      | 2.000911982     |            |           | 0.952288408 |
| 392 | Up              | GOTERM.MF.DIRECT | GO:0005155 insulin receptor binding  | 6     | 0.39458128  | 0.099705948 | 1361       | 31        | 16881      | 2.400654168     |            |           | 0.879340883 |

GO analysis of downregulation genes

| No. | Gene regulation | Category         | Term                       | Count | %           | PValue   | Link Total | Pop. Hits | Pop. Total | Fold Enrichment | Benferroni | Bayhamiti | FDR      |
|-----|-----------------|------------------|----------------------------|-------|-------------|----------|------------|-----------|------------|-----------------|------------|-----------|----------|
| 1   | Down            | GOTERM.BP.DIRECT | GO:0042384 cilium assembly | 35    | 2.047981276 | 4.28E-10 | 1421       | 124       | 16792      | 3.35845209      | 1.88E-06   | 1.88E-06  | 8.04E-07 |











|    |      |                  |  |    |             |             |             |      |     |       |             |             |             |             |
|----|------|------------------|--|----|-------------|-------------|-------------|------|-----|-------|-------------|-------------|-------------|-------------|
| 43 | Down | GOTERM:CC:DIRECT | GO:0005785 endoplasmic reticulum                               | 92 | 5.332635067 | 0.005412973 | 0.005412973 | 1535 | 828 | 18224 | 1.319145856 | 0.955000963 | 0.272475388 | 7.286245001 |
| 44 | Down | GOTERM:BP:DIRECT | GO:045474 positive regulation of Notch signaling pathway       | 9  | 0.262623757 | 0.00241456  | 0.00241456  | 1421 | 33  | 16792 | 3.222826455 | 1           | 0.615049103 | 9.39767246  |
| 45 | Down | GOTERM:BP:DIRECT | GO:045329 carilamine biosynthetic process                      | 4  | 0.234055003 | 0.00292323  | 0.00292323  | 1421 | 5   | 16792 | 9.453824263 | 1           | 0.807915424 | 9.48217316  |
| 46 | Down | GOTERM:CC:DIRECT | GO:0005785 endoplasmic reticulum membrane                      | 95 | 5.538060519 | 0.005412973 | 0.005412973 | 1535 | 862 | 18224 | 1.309433555 | 0.95248689  | 0.23196339  | 7.710860579 |
| 47 | Down | GOTERM:BP:DIRECT | GO:0007385 determination of left/right symmetry                | 12 | 0.702165009 | 0.005656881 | 0.005656881 | 1421 | 55  | 16792 | 2.578261148 | 1           | 0.617836568 | 10.100808   |
| 48 | Down | GOTERM:CC:DIRECT | GO:0005804 basement membrane                                   | 15 | 0.877700261 | 0.005841338 | 0.005841338 | 1535 | 79  | 18224 | 2.254236589 | 0.70986329  | 0.223420529 | 8.297934622 |
| 49 | Down | GOTERM:BP:DIRECT | GO:0031065 hair follicle morphogenesis                         | 8  | 0.468110006 | 0.005827852 | 0.005827852 | 1421 | 27  | 16792 | 3.301342289 | 1           | 0.624848946 | 10.65646013 |
| 50 | Down | GOTERM:BP:DIRECT | GO:0036833 intrinsic apoptosis signaling pathway in response   | 8  | 0.351822504 | 0.006575735 | 0.006575735 | 1421 | 15  | 16792 | 4.72887104  | 1           | 0.620707039 | 11.1485736  |
| 51 | Down | GOTERM:BP:DIRECT | GO:0048286 lung alveolus development                           | 9  | 0.296823757 | 0.00656767  | 0.00656767  | 1421 | 34  | 16792 | 3.128037422 | 1           | 0.620572881 | 11.28549151 |
| 52 | Down | GOTERM:BP:DIRECT | GO:0045494 photoreceptor cell maintenance                      | 9  | 0.296823757 | 0.00656767  | 0.00656767  | 1421 | 34  | 16792 | 3.128037422 | 1           | 0.620572881 | 11.28549151 |
| 53 | Down | GOTERM:BP:DIRECT | GO:0016125 steroid metabolic process                           | 7  | 0.409836255 | 0.00647378  | 0.00647378  | 1421 | 21  | 16792 | 3.939010087 | 1           | 0.614837494 | 11.48140047 |
| 54 | Down | GOTERM:BP:DIRECT | GO:0060348 bone development                                    | 10 | 0.385137507 | 0.007461929 | 0.007461929 | 1421 | 42  | 16792 | 2.813576653 | 1           | 0.65194609  | 13.12004063 |
| 55 | Down | GOTERM:BP:DIRECT | GO:0045444 fat cell differentiation                            | 14 | 0.81919251  | 0.007892544 | 0.007892544 | 1421 | 73  | 16792 | 2.866279776 | 1           | 0.65475593  | 13.48831254 |
| 56 | Down | GOTERM:BP:DIRECT | GO:0032259 methylation   | 14 | 0.81919251  | 0.007892544 | 0.007892544 | 1421 | 73  | 16792 | 2.866279776 | 1           | 0.65475593  | 13.48831254 |
| 57 | Down | GOTERM:BP:DIRECT | GO:1802187 negative regulation of viral release from host cell | 8  | 0.351822504 | 0.006575735 | 0.006575735 | 1421 | 16  | 16792 | 4.431386343 | 1           | 0.680208783 | 14.81169422 |
| 58 | Down | GOTERM:BP:DIRECT | GO:0031623 receptor internalization                            | 10 | 0.385137507 | 0.007461929 | 0.007461929 | 1421 | 43  | 16792 | 2.748146572 | 1           | 0.679729777 | 15.2069924  |
| 59 | Down | GOTERM:CC:DIRECT | GO:0000115 histone deacetylase complex                         | 9  | 0.296823757 | 0.00656767  | 0.00656767  | 1535 | 36  | 18224 | 2.866078176 | 0.995461278 | 0.302096187 | 12.35317899 |
| 60 | Down | GOTERM:MF:DIRECT | GO:0040084 methyltransferase activity                          | 4  | 0.234655003 | 0.003900224 | 0.003900224 | 1427 | 6   | 18881 | 7.888475123 | 0.939988736 | 0.776872591 | 15.07234647 |
| 61 | Down | GOTERM:BP:DIRECT | GO:0006071 Wnt signaling pathway, planar cell polarity pathway | 16 | 0.348220012 | 0.010018847 | 0.010018847 | 1421 | 92  | 16792 | 2.055135697 | 1           | 0.718571802 | 17.22789234 |
| 62 | Down | GOTERM:BP:DIRECT | GO:0006915 apoptosis process                                   | 65 | 3.803393798 | 0.010591182 | 0.010591182 | 1421 | 567 | 16792 | 1.354686009 | 1           | 0.72840736  | 18.12185245 |
| 63 | Down | GOTERM:CC:DIRECT | GO:0031527 lipid bilayer membrane                              | 6  | 0.351822504 | 0.011009839 | 0.011009839 | 1535 | 17  | 18224 | 4.190228013 | 0.99876649  | 0.342044689 | 15.08890068 |



|     |      |                  |   |     |              |             |             |      |      |       |             |             |             |              |
|-----|------|------------------|---|-----|--------------|-------------|-------------|------|------|-------|-------------|-------------|-------------|--------------|
| 80  | Down | GOTERM,CC,DIRECT | GO:0005827, intracellular   | 135 | 7.8995656349 | 0.016114756 | 0.017424501 | 1535 | 1332 | 18224 | 1.202727486 | 0.999946125 | 0.388256262 | 21.354029334 |
| 81  | Down | GOTERM,MF,DIRECT | GO:0050665, flavin adenine dinucleotide binding                               | 12  | 0.702165009  |             | 0.017424501 | 1427 | 64   | 16881 | 2.71807128  | 1           | 0.864598142 | 25.07885374  |
| 82  | Down | GOTERM,BP,DIRECT | GO:0060337, type I interferon signaling pathway                               | 12  | 0.702165009  | 0.01750247  | 0.01750247  | 1421 | 64   | 16792 | 2.715883174 | 1           | 0.80904283  | 28.26557932  |
| 83  | Down | GOTERM,CC,DIRECT | GO:0031255, lamellipodium membrane  | 6   | 0.351082504  | 0.017873903 | 0.017873903 | 1535 | 19   | 18224 | 3.74815138  | 0.999892838 | 0.40897457  | 23.52251647  |
| 84  | Down | GOTERM,MF,DIRECT | GO:0016407, oxidoreductase activity   | 27  | 1.57987127   | 0.018126072 | 0.018126072 | 1427 | 200  | 16881 | 1.597011212 | 1           | 0.853495337 | 25.95272336  |
| 85  | Down | GOTERM,BP,DIRECT | GO:0002027, regulation of heart rate  | 8   | 0.468110066  | 0.018464319 | 0.018464319 | 1421 | 33   | 16792 | 2.864734689 | 1           | 0.81933327  | 29.52811472  |
| 86  | Down | GOTERM,BP,DIRECT | GO:2001238, positive regulation of extrinsic apoptotic signaling              | 7   | 0.409896295  | 0.01905394  | 0.01905394  | 1421 | 26   | 16792 | 3.181508147 | 1           | 0.823586837 | 30.38748445  |
| 87  | Down | GOTERM,BP,DIRECT | GO:0051487, regulation of stress fiber assembly                               | 5   | 0.32568754   | 0.019578228 | 0.019578228 | 1421 | 13   | 16792 | 4.545011638 | 1           | 0.824966353 | 31.01540774  |
| 88  | Down | GOTERM,BP,DIRECT | GO:0032897, negative regulation of viral transcription                        | 5   | 0.32568754   | 0.019578228 | 0.019578228 | 1421 | 13   | 16792 | 4.545011638 | 1           | 0.824966353 | 31.01540774  |
| 89  | Down | GOTERM,BP,DIRECT | GO:0045789, positive regulation of bone resorption                            | 5   | 0.32568754   | 0.019578228 | 0.019578228 | 1421 | 13   | 16792 | 4.545011638 | 1           | 0.824966353 | 31.01540774  |
| 90  | Down | GOTERM,BP,DIRECT | GO:0039914, skeletal muscle cell differentiation                              | 10  | 0.358513707  | 0.020292148 | 0.020292148 | 1421 | 49   | 16792 | 2.411638829 | 1           | 0.828932077 | 31.86593126  |
| 91  | Down | GOTERM,BP,DIRECT | GO:0015732, prostaglandin transport   | 3   | 0.735411252  | 0.020292308 | 0.020292308 | 1421 | 3    | 16792 | 11.81703026 | 1           | 0.823117888 | 31.81397349  |
| 92  | Down | GOTERM,BP,DIRECT | GO:0008887, organ morphogenesis   | 15  | 0.877706861  | 0.022188945 | 0.022188945 | 1421 | 92   | 16792 | 1.928688716 | 1           | 0.844561715 | 34.32004658  |
| 93  | Down | GOTERM,MF,DIRECT | GO:0004497, monoxygenase activity   | 11  | 0.434951258  | 0.022338853 | 0.022338853 | 1427 | 58   | 16881 | 2.249356199 | 1           | 0.889490069 | 31.0071249   |
| 94  | Down | GOTERM,CC,DIRECT | GO:0097546, ciliary base  | 7   | 0.409896295  | 0.022891616 | 0.022891616 | 1535 | 27   | 16224 | 3.078006897 | 0.999896884 | 0.463656444 | 28.4632971   |
| 95  | Down | GOTERM,BP,DIRECT | GO:0091917, extrinsic apoptotic signaling pathway                             | 9   | 0.286282757  | 0.022881148 | 0.022881148 | 1421 | 42   | 16792 | 2.52220771  | 1           | 0.846366178 | 35.01378563  |
| 96  | Down | GOTERM,BP,DIRECT | GO:0000337, regulation of reactive oxygen species metabolic process           | 6   | 0.351082504  | 0.022744283 | 0.022744283 | 1421 | 20   | 16792 | 3.545100785 | 1           | 0.841734829 | 35.08000123  |
| 97  | Down | GOTERM,MF,DIRECT | GO:0041817, metallocarboxypeptidase activity                                  | 7   | 0.409896295  | 0.022747365 | 0.022747365 | 1427 | 27   | 16881 | 3.086962548 | 1           | 0.870782802 | 34.14375161  |
| 98  | Down | GOTERM,BP,DIRECT | GO:0042476, ontogeny  | 7   | 0.409896295  | 0.022854681 | 0.022854681 | 1421 | 27   | 16792 | 3.083674512 | 1           | 0.837888798 | 35.21769822  |
| 99  | Down | GOTERM,BP,DIRECT | GO:0006006, glucose metabolic process   | 12  | 0.702165009  | 0.024892773 | 0.024892773 | 1421 | 67   | 16792 | 2.116483032 | 1           | 0.849256572 | 36.7417289   |
| 100 | Down | GOTERM,CC,DIRECT | GO:0020956, neurogenesis  | 4   | 0.344955003  | 0.024419528 | 0.024419528 | 1535 | 8    | 18224 | 5.338158562 | 0.999898822 | 0.474318974 | 30.3258450   |
| 101 | Down | GOTERM,BP,DIRECT | GO:0040337, regulation of fibroblast growth factor receptor signaling pathway | 4   | 0.344955003  | 0.024419528 | 0.024419528 | 1421 | 8    | 16792 | 5.338158562 | 0.999898822 | 0.474318974 | 30.3258450   |
| 102 | Down | GOTERM,BP,DIRECT | GO:0032985, collagen metabolic process  | 4   | 0.344955003  | 0.024419528 | 0.024419528 | 1421 | 8    | 16792 | 5.338158562 | 0.999898822 | 0.474318974 | 30.3258450   |
| 103 | Down | GOTERM,BP,DIRECT | GO:0032822, negative regulation of natural killer cell differentiation        | 4   | 0.344955003  | 0.024419528 | 0.024419528 | 1421 | 8    | 16792 | 5.338158562 | 0.999898822 | 0.474318974 | 30.3258450   |
| 104 | Down | GOTERM,BP,DIRECT | GO:0046617, negative regulation of keratinocyte differentiation               | 4   | 0.344955003  | 0.024419528 | 0.024419528 | 1421 | 8    | 16792 | 5.338158562 | 0.999898822 | 0.474318974 | 30.3258450   |
| 105 | Down | GOTERM,MF,DIRECT | GO:0031005, filament binding  | 5   | 0.32568754   | 0.025623054 | 0.025623054 | 1421 | 14   | 16881 | 4.224897387 | 1           | 0.88927176  | 34.60204064  |
| 106 | Down | GOTERM,BP,DIRECT | GO:0070007, renal system development  | 5   | 0.32568754   | 0.025623054 | 0.025623054 | 1421 | 14   | 16881 | 4.224897387 | 1           | 0.88927176  | 34.60204064  |
| 107 | Down | GOTERM,BP,DIRECT | GO:0044618, positive regulation of keratinocyte differentiation               | 5   | 0.32568754   | 0.025623054 | 0.025623054 | 1421 | 14   | 16881 | 4.224897387 | 1           | 0.88927176  | 34.60204064  |
| 108 | Down | GOTERM,BP,DIRECT | GO:0018839, negative regulation of keratinocyte proliferation                 | 5   | 0.32568754   | 0.025623054 | 0.025623054 | 1421 | 14   | 16881 | 4.224897387 | 1           | 0.88927176  | 34.60204064  |
| 109 | Down | GOTERM,BP,DIRECT | GO:0031109, axon regeneration   | 5   | 0.32568754   | 0.025623054 | 0.025623054 | 1421 | 14   | 16881 | 4.224897387 | 1           | 0.88927176  | 34.60204064  |
| 110 | Down | GOTERM,BP,DIRECT | GO:0014823, response to activity  | 9   | 0.328623757  | 0.028942645 | 0.028942645 | 1421 | 43   | 16792 | 2.13331815  | 1           | 0.854243226 | 38.88048632  |
| 111 | Down | GOTERM,MF,DIRECT | GO:0003950, NAD+ ADP-ribosyltransferase activity                              | 7   | 0.409896295  | 0.028942645 | 0.028942645 | 1427 | 28   | 16881 | 2.957428171 | 1           | 0.889419045 | 36.14935549  |
| 112 | Down | GOTERM,BP,DIRECT | GO:0010107, potassium ion import  | 7   | 0.409896295  | 0.027868008 | 0.027868008 | 1421 | 28   | 16792 | 2.954257965 | 1           | 0.882276417 | 40.26660511  |
| 113 | Down | GOTERM,BP,DIRECT | GO:0001845, neural tube closure   | 13  | 0.76087878   | 0.027813878 | 0.027813878 | 1421 | 77   | 16792 | 1.939583031 | 1           | 0.863360285 | 40.89535656  |
| 114 | Down | GOTERM,CC,DIRECT | GO:0045111, intermediate filament cytoskeleton                                | 10  | 0.858513707  | 0.028170957 | 0.028170957 | 1535 | 52   | 18224 | 2.283137058 | 0.999898988 | 0.513406949 | 34.46002068  |
| 115 | Down | GOTERM,MF,DIRECT | GO:0048487, beta-tubulin binding  | 8   | 0.468110066  | 0.028803148 | 0.028803148 | 1427 | 36   | 16881 | 2.828250041 | 1           | 0.880898871 | 38.12547895  |

| 116 | Down | GOTERM_BP_DIRECT | GO:0010045 response to zinc ion                                  | 8  | 0.466110066 | 0.029590731 | A 23 P434809, A 23 P134176, A 23 P8919, A 32 P21255, A 23 P27627, A 23 P21737, A 24 P319113, A 23 P20825, A 24 P41647, A 23 P110841, A 23 P80570, A 23 P110167, A 23 P89834, A 23 P121767, A 23 P92480, A 23 P207213, A 23 P958817, A 23 P8801, A 23 P58407   | 1421 | 36   | 16792 | 2.82606025  | 1   | 0.871915616  | 42.40019192 |
|-----|------|------------------|--|----|-------------|-------------|---|------|--|-------|---|---|--------------|-------------|
| 117 | Down | GOTERM_BP_DIRECT | GO:0006805 xenobiotic metabolic process                          | 13 | 0.76687876  | 0.030216358 | A 23 P207319, A 32 P223386, A 23 P310403, A 32 P265785, A 23 P70231, A 23 P44938, A 23 P133865, A 24 P106112, A 24 P411899, A 23 P11685, A 24 P134319, A 23 P144427, A 32 P122226, A 23 P116557, A 24 P411188, A 23 P79271, A 23 P346045, A 23 P116850, A 23 P212447, A 24 P539716, A 24 P90990, A 23 P887, A 24 P10233, A 23 P89540, A 23 P206310, A 24 P346431, A 23 P407112, A 23 P313512, A 24 P670693, A 23 P43580, A 24 P941167, A 24 P425304, A 24 P10137, A 24 P365386, A 23 P902750, A 23 P102391, A 23 P17387, A 24 P166450, A 23 P271155, A 23 P144096, A 24 P174813, A 23 P17663, A 23 P122852, A 23 P102571, A 23 P150053, A 23 P144578, A 24 P364236, A 23 P211207, A 24 P165856, A 23 P115167, A 23 P133891, A 23 P88976, A 23 P15064, A 23 P210482, A 24 P943815, A 24 P885, A 24 P297351, A 23 P29855, A 23 P123183, A 23 P12485, A 32 P100683, A 24 P398323, A 23 P69383, A 23 P152906, A 24 P45122, A 23 P66669, A 23 P90988, A 24 P292324, A 24 P198592, A 24 P180481, A 24 P493815, A 23 P50024, A 23 P19093, A 24 P96234, A 23 P22332, A 23 P12837, A 24 P186372, A 23 P410017, A 23 P4328, A 23 P16856, A 23 P10568, A 23 P16699, A 23 P23424, A 23 P10604, A 23 P43936, A 23 P29822, A 23 P40196, A 24 P146728, A 23 P68513, A 23 P58877, A 23 P368873, A 23 P41795, A 23 P216894, A 24 P18028, A 32 P58052, A 23 P28830, A 23 P313832, A 23 P61880, A 24 P54131, A 23 P117163, A 24 P380576, A 23 P333852, A 24 P309358, A 24 P182539, A 23 P10196, A 23 P154235, A 23 P501435, A 24 P166683, A 23 P110473, A 23 P14184, A 23 P46428, A 24 P66780, A 23 P58819, A 24 P56509, A 24 P141828, A 23 P218920, A 23 P17972, A 23 P47816, A 32 P34387, A 23 P217319, A 24 P942354, A 23 P82953, A 23 P207213, A 23 P168019, A 24 P171973, A 24 P160104, A 23 P311201, A 23 P218047, A 24 P402779, A 32 P88719, A 23 P402078, A 23 P310911, A 23 P314712, A 23 P347632, A 23 P97385, A 23 P94819, A 23 P112311, A 24 P385811, A 23 P343411, A 23 P7896, A 23 P11888, A 23 P90407, A 23 P81888, A 32 P117170, A 23 P375586, A 32 P68533, A 23 P3038, A 32 P161762, A 24 P148124, A 23 P78867, A 24 P39887, A 24 P223756, A 23 P8084, A 32 P174865, A 23 P212332, A 23 P15843, A 23 P259741, A 24 P273756, A 23 P8084, A 32 P174865, A 23 P212332, A 23 P102706, A 23 P39293, A 24 P134319, A 23 P10251, A 23 P14348, A 23 P28953, A 24 P145122, A 23 P143247, A 23 P30024, A 23 P31909, A 24 P125983, A 23 P169033, A 24 P10299, A 23 P57379, A 23 P8688, A 23 P122852, A 24 P36058, A 24 P398872, A 32 P509378, A 32 P161762, A 24 P222896, A 23 P56838, A 23 P18019, A 23 P210445, A 23 P27381, A 24 P942894, A 23 P106194, A 23 P255714, A 23 P448936, A 32 P142818, A 23 P259012, A 23 P8588, A 23 P138909, A 24 P3449616, A 23 P122906, A 24 P39887, A 24 P183128, A 23 P11937 | 1421 | 391  | 16881 | 1.361475884   | 1   | 0.884408601  | 40.19120479 |
| 119 | Down | GOTERM_MF_DIRECT | GO:0005885 chromatin binding                                     | 45 | 2.633118783 | 0.030880757 | A 23 P434809, A 23 P30024, A 23 P29822, A 23 P89386, A 24 P26506, A 23 P89380, A 23 P376488, A 24 P19796, A 23 P166051, A 23 P105138, A 23 P500300, A 23 P1374, A 23 P16557, A 23 P32499, A 23 P29234, A 24 P128971, A 24 P172481, A 23 P112311, A 24 P29234, A 23 P219055  | 1421 | 133  | 16792 | 1.68814718  | 1   | 0.884079188  | 44.94297316 |
| 120 | Down | GOTERM_BP_DIRECT | GO:0051092 positive regulation of NF-kappaB transcription factor | 19 | 1.111761244 | 0.031282768 | A 23 P29234, A 23 P219055   | 1421 | 15 <th>16224</th> <th>3.957437963 <th>0.999999997 <th>0.527704279</th> <th>35.35382927</th> </th></th> | 16224 | 3.957437963 <th>0.999999997 <th>0.527704279</th> <th>35.35382927</th> </th> | 0.999999997 <th>0.527704279</th> <th>35.35382927</th> | 0.527704279  | 35.35382927 |
| 121 | Down | GOTERM_CC_DIRECT | GO:0005775 integral component of peroxisomal membrane            | 5  | 0.29268754  | 0.032165244 | A 24 P16411, A 23 P21272, A 23 P144505, A 23 P289328, A 23 P2321466   | 1535 | 15 <th>16224</th> <th>3.957437963 <th>0.999999997 <th>0.527704279</th> <th>35.35382927</th> </th></th> | 16224 | 3.957437963 <th>0.999999997 <th>0.527704279</th> <th>35.35382927</th> </th> | 0.999999997 <th>0.527704279</th> <th>35.35382927</th> | 0.527704279  | 35.35382927 |
| 122 | Down | GOTERM_BP_DIRECT | GO:0088885 cellular oxidant detoxification                       | 12 | 0.702165008 | 0.032250871 | A 23 P1681, A 23 P1160338, A 23 P44407, A 23 P31816, A 23 P88882, A 24 P110167, A 24 P368, A 24 P1816, A 23 P3036, A 24 P1816, A 23 P4236, A 23 P4236, A 24 P69322, A 23 P36586   | 1421 | 70   | 16792 | 2.025778616   | 1   | 0.871961867  | 45.96703931 |
| 123 | Down | GOTERM_CC_DIRECT | GO:0014704 intercalated disc                                     | 9  | 0.529623757 | 0.032395716 | A 23 P20269, A 23 P57708, A 23 P217319, A 23 P308833, A 32 P147078, A 23 P324261, A 24 P59236, A 23 P39840, A 23 P1032  | 1535 | 45   | 16224 | 2.714462541 <th>0.999999998</th> <th>0.3271893786</th> <th>38.54823284</th> | 0.999999998   | 0.3271893786 | 38.54823284 |
| 124 | Down | GOTERM_BP_DIRECT | GO:0027575 positive regulation of interferon-beta production     | 9  | 0.29623757  | 0.033161411 | A 23 P29822, A 23 P11183, A 23 P9448, A 23 P242641, A 23 P31944, A 23 P376488, A 24 P319113, A 23 P26929, A 23 P40886   | 1421 | 45   | 16792 | 3.223406052   | 1   | 0.891196877  | 46.91374298 |
| 125 | Down | GOTERM_BP_DIRECT | GO:0050718 positive regulation of interferon-beta secretion      | 6  | 0.351082504 | 0.033579777 | A 23 P407614, A 24 P14260, A 23 P11657, A 24 P13113, A 23 P26629, A 23 P202978, A 23 P403836, A 23 P34854, A 32 P10254, A 32 P147078, A 23 P29539, A 23 P38429  | 1421 | 22   | 16792 | 3.222828435 <th>1</th> <th>0.890994403</th> <th>47.34341502</th>            | 1   | 0.890994403  | 47.34341502 |
| 126 | Down | GOTERM_BP_DIRECT | GO:0050718 calcium ion homeostasis                               | 6  | 0.351082504 | 0.033579777 | A 23 P403836, A 23 P34854, A 32 P10254, A 32 P147078, A 23 P29539, A 23 P38429  | 1421 | 22   | 16792 | 3.222828435 <th>1</th> <th>0.890994403</th> <th>47.34341502</th>            | 1   | 0.890994403  | 47.34341502 |
| 127 | Down | GOTERM_CC_DIRECT | GO:0034467 BBSome  | 4  | 0.234055003 | 0.033955088 | A 23 P93967, A 23 P42351, A 24 P184386, A 32 P169735  | 1535 | 9 <th>16224</th> <th>5.276583424 <th>0.999999999</th> <th>0.326382303</th> <th>40.03411318</th> </th>  | 16224 | 5.276583424 <th>0.999999999</th> <th>0.326382303</th> <th>40.03411318</th>  | 0.999999999   | 0.326382303  | 40.03411318 |
| 128 | Down | GOTERM_BP_DIRECT | GO:0058985 response to stimulus                                  | 11 | 0.643651259 | 0.034206854 | A 23 P92351, A 32 P13066, A 32 P34387, A 24 P184386, A 23 P186327, A 32 P88833, A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587, A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1421 | 62   | 16792 | 2.906569885   | 1   | 0.891716824  | 47.98110254 |
| 129 | Down | GOTERM_BP_DIRECT | GO:0056615 hydrogen peroxide biosynthetic process                | 4  | 0.234055003 | 0.034403218 | A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1421 | 9  | 16792 | 5.252013440   | 1   | 0.895646113  | 48.17954495 |
| 130 | Down | GOTERM_BP_DIRECT | GO:0050197 positive regulation of chemokine secretion            | 4  | 0.234055003 | 0.034403218 | A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1421 | 9  | 16792 | 5.252013440   | 1   | 0.895646113  | 48.17954495 |
| 131 | Down | GOTERM_BP_DIRECT | GO:2000737 negative regulation of stem cell differentiation      | 4  | 0.234055003 | 0.034403218 | A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1421 | 9  | 16792 | 5.252013440   | 1   | 0.895646113  | 48.17954495 |
| 132 | Down | GOTERM_BP_DIRECT | GO:0071260 cellular response to mechanical stimulus              | 12 | 0.702165008 | 0.035359823 | A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1421 | 71   | 16792 | 1.997244551   | 1   | 0.892959894  | 49.13511651 |
| 133 | Down | GOTERM_CC_DIRECT | GO:0008925 basal plasma membrane                                 | 7  | 0.409639255 | 0.036285051 | A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587, A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587, A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1535 | 30   | 16224 | 2.770206289   | 1   | 0.537203382  | 42.07799815 |
| 134 | Down | GOTERM_MF_DIRECT | GO:0044212 transcription regulatory region DNA binding           | 27 | 1.57887127  | 0.038440168 | A 23 P212552, A 23 P23938, A 24 P212786, A 23 P212786, A 23 P1854, A 23 P205178, A 23 P10251, A 23 P143348, A 24 P18380, A 23 P207142, A 24 P411162, A 23 P100786, A 23 P212552, A 23 P48885, A 24 P130024, A 23 P5539, A 24 P74084, A 24 P29249, A 23 P376488, A 23 P410195, A 23 P106194, A 32 P59002, A 23 P46836, A 24 P217904, A 23 P55800, A 23 P12738, A 23 P119337  | 1427 | 213  | 16881 | 1.489541044   | 1   | 0.920618305  | 45.65059833 |
| 135 | Down | GOTERM_BP_DIRECT | GO:0042881 regulation of apoptotic process                       | 27 | 1.57887127  | 0.038841714 | A 23 P18882, A 23 P404660, A 23 P307424, A 23 P35916, A 24 P273756, A 23 P83896, A 23 P43829, A 24 P1480, A 23 P8134, A 24 P262739, A 24 P363548, A 23 P128408, A 24 P274270, A 23 P215834, A 23 P340171, A 24 P10233, A 24 P718838, A 23 P309739, A 23 P12115, A 23 P88380, A 23 P382775, A 23 P214880, A 23 P64173, A 32 P29856, A 23 P41854, A 24 P15238, A 24 P15238, A 23 P307544, A 23 P60337, A 24 P106112   | 1421 | 213  | 16792 | 1.497833413   | 1   | 0.88950111   | 50.8826126  |
| 136 | Down | GOTERM_BP_DIRECT | GO:0021915 neural tube development                               | 7  | 0.409639255 | 0.038960995 | A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1421 | 30   | 16792 | 2.757307061   | 1   | 0.897080248  | 50.68730823 |
| 137 | Down | GOTERM_BP_DIRECT | GO:0050718 ion homeostasis                                       | 7  | 0.409639255 | 0.038960995 | A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1421 | 30   | 16792 | 2.757307061   | 1   | 0.897080248  | 50.68730823 |
| 138 | Down | GOTERM_BP_DIRECT | GO:0016575 histone deacetylation                                 | 9  | 0.529623757 | 0.03778087  | A 23 P417853, A 23 P37088, A 24 P48057, A 24 P48528, A 32 P89189, A 24 P106587  | 1421 | 46   | 16792 | 2.3102766   | 1   | 0.895009967  | 51.00124289 |

|     |      |                  |            |  |    |               |              |              |      |     |       |               |   |             |                |
|-----|------|------------------|------------|--|----|---------------|--------------|--------------|------|-----|-------|---------------|---|-------------|----------------|
| 136 | Down | GOTERM.BP.DIRECT | GO:0030335 | positive regulation of cell migration  | 24 | 1,404,300,118 | 0.037881778  | 0.037881778  | 1421 | 184 | 16792 | 1,541,351,773 | 1 | 0.805340922 | 51,387,895,94  |
| 140 | Down | GOTERM.BP.DIRECT | GO:0000811 | response to wounding   | 11 | 0,443,951,258 | 0.037989292  | 0.037989292  | 1421 | 63  | 16792 | 2,063,900,966 | 1 | 0.892292409 | 51,402,224,941 |
| 141 | Down | GOTERM.NF.DIRECT | GO:0070352 | thrombospondin receptor activity   | 3  | 0,756,412,52  | 0.038126272  | 0.038126272  | 1427 | 4   | 16831 | 8,372,284,513 | 1 | 0.920776359 | 47,192,035,336 |
| 142 | Down | GOTERM.BP.DIRECT | GO:0073387 | complement system activation   | 3  | 0,756,412,52  | 0.038203274  | 0.038203274  | 1421 | 4   | 16792 | 8,892,772,893 | 1 | 0.897403334 | 51,378,193,133 |
| 143 | Down | GOTERM.BP.DIRECT | GO:0030335 | positive regulation of cell migration  | 3  | 0,756,412,52  | 0.038203274  | 0.038203274  | 1421 | 4   | 16792 | 8,892,772,893 | 1 | 0.897403334 | 51,378,193,133 |
| 144 | Down | GOTERM.BP.DIRECT | GO:0012700 | ion transport  | 3  | 0,756,412,52  | 0.038203274  | 0.038203274  | 1421 | 4   | 16792 | 8,892,772,893 | 1 | 0.897403334 | 51,378,193,133 |
| 145 | Down | GOTERM.BP.DIRECT | GO:0007568 | aging  | 22 | 1,837,702,516 | 0.038559142  | 0.038559142  | 1421 | 165 | 16792 | 1,579,600,405 | 1 | 0.891566822 | 52,210,249,49  |
| 146 | Down | GOTERM.CO.DIRECT | GO:0006022 | transcription elongation factor complex  | 6  | 0,351,082,504 | 0.039494928  | 0.039494928  | 1421 | 23  | 16792 | 3,097,129,653 | 1 | 0.956492003 | 44,782,762,628 |
| 147 | Down | GOTERM.NF.DIRECT | GO:0043425 | hMLH1 transcription factor binding   | 6  | 0,351,082,504 | 0.039586949  | 0.039586949  | 1427 | 23  | 16831 | 3,086,012,003 | 1 | 0.919833174 | 43,732,026,669 |
| 148 | Down | GOTERM.NF.DIRECT | GO:0020803 | heme binding   | 19 | 1,111,661,664 | 0.039866427  | 0.039866427  | 1427 | 137 | 16881 | 1,640,081,788 | 1 | 0.911298256 | 48,635,929,95  |
| 149 | Down | GOTERM.BP.DIRECT | GO:0045882 | negative regulation of myoblast differentiation  | 6  | 0,351,082,504 | 0.040011565  | 0.040011565  | 1421 | 23  | 16792 | 3,097,129,653 | 1 | 0.897527071 | 53,552,428,327 |
| 150 | Down | GOTERM.NF.DIRECT | GO:0080111 | DNA demethylation  | 5  | 0,292,688,754 | 0.040893131  | 0.040893131  | 1421 | 16  | 16792 | 3,932,921,956 | 1 | 0.895580003 | 54,164,129,66  |
| 151 | Down | GOTERM.BP.DIRECT | GO:0033458 | cellular response to interferon-beta   | 5  | 0,292,688,754 | 0.040893131  | 0.040893131  | 1421 | 16  | 16792 | 3,932,921,956 | 1 | 0.895580003 | 54,164,129,66  |
| 152 | Down | GOTERM.BP.DIRECT | GO:0001376 | establishment of planar polarity   | 5  | 0,292,688,754 | 0.040893131  | 0.040893131  | 1421 | 16  | 16792 | 3,932,921,956 | 1 | 0.895580003 | 54,164,129,66  |
| 153 | Down | GOTERM.BP.DIRECT | GO:0001220 | Notch receptor processing  | 5  | 0,292,688,754 | 0.040893131  | 0.040893131  | 1421 | 16  | 16792 | 3,932,921,956 | 1 | 0.895580003 | 54,164,129,66  |
| 154 | Down | GOTERM.BP.DIRECT | GO:0010332 | response to gamma radiation  | 7  | 0,409,969,925 | 0.042670817  | 0.042670817  | 1421 | 31  | 16792 | 2,668,361,672 | 1 | 0.900760042 | 55,006,100,94  |
| 155 | Down | GOTERM.BP.DIRECT | GO:0045668 | negative regulation of osteoblast differentiation  | 8  | 0,481,100,006 | 0.042857583  | 0.042857583  | 1421 | 39  | 16792 | 2,424,000,207 | 1 | 0.905022667 | 56,067,614,75  |
| 156 | Down | GOTERM.BP.DIRECT | GO:0008615 | response to virus  | 16 | 0,302,200,12  | 0.043941798  | 0.043941798  | 1421 | 110 | 16792 | 1,718,840,765 | 1 | 0.907487514 | 56,008,185,48  |
| 157 | Down | GOTERM.CO.DIRECT | GO:0005817 | collagen trimer  | 14 | 0,819,192,51  | 0.044135756  | 0.044135756  | 1421 | 92  | 16224 | 1,006,656,821 | 1 | 0.936609274 | 48,897,548,78  |
| 158 | Down | GOTERM.BP.DIRECT | GO:0006342 | glial cell migration   | 4  | 0,234,550,003 | 0.046122702  | 0.046122702  | 1421 | 10  | 16792 | 4,726,817,004 | 1 | 0.916337334 | 55,788,049,44  |
| 159 | Down | GOTERM.BP.DIRECT | GO:0033334 | keratinocyte development   | 4  | 0,234,550,003 | 0.046122702  | 0.046122702  | 1421 | 10  | 16792 | 4,726,817,004 | 1 | 0.916337334 | 55,788,049,44  |
| 160 | Down | GOTERM.BP.DIRECT | GO:0030145 | shibingoid biosynthetic process  | 9  | 0,268,237,57  | 0.046907842  | 0.046907842  | 1421 | 48  | 16792 | 2,516,933,174 | 1 | 0.915342929 | 59,109,339,33  |
| 161 | Down | GOTERM.BP.DIRECT | GO:0051602 | response to electrical stimulus  | 8  | 0,351,082,504 | 0.047149414  | 0.047149414  | 1421 | 40  | 16792 | 2,854,257,965 | 1 | 0.915831026 | 60,534,271,38  |
| 162 | Down | GOTERM.BP.DIRECT | GO:0043286 | positive regulation of cysteine-type endopeptidase activity  | 8  | 0,481,100,006 | 0.048307873  | 0.048307873  | 1421 | 40  | 16792 | 2,854,257,965 | 1 | 0.915831026 | 60,534,271,38  |
| 163 | Down | GOTERM.NF.DIRECT | GO:0016705 | oxidoreductase activity, acting on paired donors, with NAD(P)+ as acceptor, reduced flavin mononucleotide as cofactor, and oxygen as oxidant | 10 | 0,851,137,07  | 0.048369748  | 0.048369748  | 1427 | 57  | 16881 | 2,076,388,19  | 1 | 0.940263379 | 55,682,964,82  |
| 164 | Down | GOTERM.NF.DIRECT | GO:0041880 | carboxypeptidase activity  | 5  | 0,292,688,754 | 0.049760241  | 0.049760241  | 1421 | 17  | 16792 | 3,473,827,268 | 1 | 0.837807485 | 66,633,934,62  |
| 165 | Down | GOTERM.BP.DIRECT | GO:0048517 | nerve, vessel morphogenesis  | 5  | 0,292,688,754 | 0.049760241  | 0.049760241  | 1421 | 17  | 16792 | 3,473,827,268 | 1 | 0.837807485 | 66,633,934,62  |
| 166 | Down | GOTERM.NF.DIRECT | GO:0007010 | cytoskeleton organization  | 21 | 1,287,887,65  | 0.052733897  | 0.052733897  | 1421 | 161 | 16792 | 1,541,351,773 | 1 | 0.801161385 | 63,942,939,9   |
| 167 | Down | GOTERM.NF.DIRECT | GO:0000075 | RNA polymerase II core promoter proximal region  | 40 | 2,340,500,29  | 0.0540203782 | 0.0540203782 | 1427 | 355 | 16881 | 1,332,929,373 | 1 | 0.946374348 | 59,963,408,79  |
| 168 | Down | GOTERM.BP.DIRECT | GO:0015389 | methanolic acid metabolic process  | 6  | 0,351,082,504 | 0.054867524  | 0.054867524  | 1421 | 25  | 16792 | 2,538,097,262 | 1 | 0.837298827 | 65,424,459,6   |
| 169 | Down | GOTERM.BP.DIRECT | GO:0060972 | coronary vasculature development   | 6  | 0,351,082,504 | 0.054867524  | 0.054867524  | 1421 | 25  | 16792 | 2,538,097,262 | 1 | 0.837298827 | 65,424,459,6   |
| 170 | Down | GOTERM.BP.DIRECT | GO:0001764 | neuron migration   | 15 | 0,877,006,261 | 0.058774418  | 0.058774418  | 1421 | 105 | 16792 | 1,688,14718   | 1 | 0.946788165 | 67,950,073,93  |
| 171 | Down | GOTERM.BP.DIRECT | GO:0006050 | creatine metabolic process   | 4  | 0,234,550,003 | 0.058551518  | 0.058551518  | 1421 | 11  | 16792 | 4,297,101,913 | 1 | 0.947149206 | 68,418,222,41  |
| 172 | Down | GOTERM.NF.DIRECT | GO:0061045 | negative regulation of wound healing   | 4  | 0,234,550,003 | 0.058551518  | 0.058551518  | 1421 | 11  | 16792 | 4,297,101,913 | 1 | 0.947149206 | 68,418,222,41  |
| 173 | Down | GOTERM.BP.DIRECT | GO:0003322 | yeast mating cell development  | 4  | 0,234,550,003 | 0.058551518  | 0.058551518  | 1421 | 11  | 16792 | 4,297,101,913 | 1 | 0.947149206 | 68,418,222,41  |
| 174 | Down | GOTERM.BP.DIRECT | GO:0081517 | protein localization to cilium   | 5  | 0,292,688,754 | 0.05844511   | 0.05844511   | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 175 | Down | GOTERM.BP.DIRECT | GO:0031688 | cellular response to extracellular stimulus  | 5  | 0,292,688,754 | 0.05844511   | 0.05844511   | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 176 | Down | GOTERM.BP.DIRECT | GO:0038342 | post-natal hair morphogenesis  | 5  | 0,292,688,754 | 0.05844511   | 0.05844511   | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 177 | Down | GOTERM.BP.DIRECT | GO:0056870 | positive regulation of T cell activation   | 5  | 0,292,688,754 | 0.05844511   | 0.05844511   | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 178 | Down | GOTERM.BP.DIRECT | GO:0006180 | nucleoside diphosphate phosphorylation   | 5  | 0,292,688,754 | 0.05844511   | 0.05844511   | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 179 | Down | GOTERM.NF.DIRECT | GO:0039044 | actin development  | 3  | 0,756,412,52  | 0.060239184  | 0.060239184  | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 180 | Down | GOTERM.NF.DIRECT | GO:0024392 | phosphoinositide 3-kinase phosphatase activity   | 3  | 0,756,412,52  | 0.060239184  | 0.060239184  | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 181 | Down | GOTERM.NF.DIRECT | GO:0020319 | protein retention in Golgi apparatus   | 3  | 0,756,412,52  | 0.060239184  | 0.060239184  | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 182 | Down | GOTERM.NF.DIRECT | GO:0032030 | actin filament sliding   | 3  | 0,756,412,52  | 0.060239184  | 0.060239184  | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 183 | Down | GOTERM.BP.DIRECT | GO:0034122 | positive regulation of cell-cell receptor signaling  | 3  | 0,756,412,52  | 0.060239184  | 0.060239184  | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 184 | Down | GOTERM.BP.DIRECT | GO:0034122 | positive regulation of cell-cell receptor signaling  | 3  | 0,756,412,52  | 0.060239184  | 0.060239184  | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |
| 185 | Down | GOTERM.BP.DIRECT | GO:0034122 | positive regulation of cell-cell receptor signaling  | 3  | 0,756,412,52  | 0.060239184  | 0.060239184  | 1421 | 18  | 16792 | 3,822,508,406 | 1 | 0.949298173 | 68,613,662,21  |

|     |      |                  |  |    |            |            |      |     |       |             |   |             |             |
|-----|------|------------------|--|----|------------|------------|------|-----|-------|-------------|---|-------------|-------------|
| 186 | Down | GOTERM MF DIRECT | GO:0043565 sequence-specific DNA binding                       | 55 | 32182829   | 0061801438 | 1427 | 518 | 16881 | 1256050575  | 1 | 0.955680725 | 65.01102853 |
| 187 | Down | GOTERM BP DIRECT | GO:0032481 positive regulation of type I interferon production | 9  | 0246232757 | 0082947247 | 1421 | 51  | 16792 | 2065355282  | 1 | 0.951003342 | 70.50180903 |
| 188 | Down | GOTERM MF DIRECT | GO:0008395 steroid hydroxylase activity                        | 6  | 0351082504 | 0063293252 | 1427 | 26  | 16881 | 2729333662  | 1 | 0.953930700 | 65.83612023 |
| 189 | Down | GOTERM CO DIRECT | GO:0045121 membrane raft                                       | 25 | 142843768  | 0084820228 | 1635 | 206 | 18224 | 1440814648  | 1 | 0.718902142 | 62.93467344 |
| 190 | Down | GOTERM BP DIRECT | GO:0007414 synapse assembly                                    | 10 | 0385137507 | 0069806295 | 1421 | 61  | 16792 | 1937218075  | 1 | 0.963556596 | 74.19370598 |
| 191 | Down | GOTERM MF DIRECT | GO:0008375 seryltransferase activity                           | 5  | 0329268154 | 0070894229 | 1427 | 35  | 16881 | 3113092295  | 1 | 0.964428071 | 70.01247138 |
| 192 | Down | GOTERM BP DIRECT | GO:0007593 reactive oxygen species metabolic process           | 7  | 0400896255 | 0070984008 | 1421 | 19  | 16792 | 2383406052  | 1 | 0.964435184 | 74.81563822 |
| 193 | Down | GOTERM BP DIRECT | GO:0045577 positive regulation of osteoclast differentiation   | 5  | 0329268154 | 0070829191 | 1427 | 19  | 16792 | 3109744805  | 1 | 0.963412288 | 74.87654306 |
| 194 | Down | GOTERM MF DIRECT | GO:0073339 aromatase activity                                  | 8  | 0351082504 | 0072987330 | 1427 | 27  | 16881 | 2328252041  | 1 | 0.963542289 | 70.95707399 |
| 195 | Down | GOTERM BP DIRECT | GO:0035077 cell differentiation in thymus                      | 6  | 0351082504 | 0072746301 | 1421 | 27  | 16792 | 2328206725  | 1 | 0.963536591 | 72.78971892 |
| 196 | Down | GOTERM MF DIRECT | GO:0042803 protein homodimerization activity                   | 74 | 4330017654 | 0072786832 | 1427 | 730 | 16881 | 1199176354  | 1 | 0.960177522 | 71.09674977 |
| 197 | Down | GOTERM BP DIRECT | GO:0001500 ossification  | 12 | 0202165008 | 0073118388 | 1421 | 80  | 16792 | 1772554539  | 1 | 0.964782427 | 75.96779557 |
| 198 | Down | GOTERM BP DIRECT | GO:0009557 anterior/posterior pattern specification            | 12 | 0202165008 | 0073118388 | 1421 | 80  | 16792 | 1772554539  | 1 | 0.964782427 | 75.96779557 |
| 199 | Down | GOTERM MF DIRECT | GO:0004085 methyltransferase activity                          | 4  | 0340455023 | 0074251708 | 1427 | 12  | 16881 | 3442323754  | 1 | 0.950685649 | 71.89071902 |
| 200 | Down | GOTERM BP DIRECT | GO:0030077 cellular catabolism homeostasis                     | 4  | 0340455023 | 0074254636 | 1421 | 12  | 16792 | 3338010687  | 1 | 0.963566539 | 76.65242673 |
| 201 | Down | GOTERM BP DIRECT | GO:0033413 positive regulation of cation import into nucleus   | 4  | 0340455023 | 0074543863 | 1421 | 12  | 16792 | 3338010687  | 1 | 0.963566539 | 76.65242673 |
| 202 | Down | GOTERM MF DIRECT | GO:0005109 frizzled binding                                    | 7  | 0409596255 | 0078853765 | 1427 | 36  | 16881 | 2300221911  | 1 | 0.963023914 | 74.04009963 |
| 203 | Down | GOTERM BP DIRECT | GO:0006405 response to cold                                    | 7  | 0409596255 | 0079174663 | 1421 | 36  | 16792 | 2297559884  | 1 | 0.971668976 | 78.75124126 |
| 204 | Down | GOTERM BP DIRECT | GO:0006723 telomere maintenance                                | 7  | 0409596255 | 0079174663 | 1421 | 36  | 16792 | 2297559884  | 1 | 0.971668976 | 78.75124126 |
| 205 | Down | GOTERM BP DIRECT | GO:0072859 protein localization to plasma membrane             | 10 | 0385137507 | 0081888125 | 1421 | 63  | 16792 | 1875719089  | 1 | 0.97421161  | 79.91728013 |
| 206 | Down | GOTERM MF DIRECT | GO:0004550 nucleoside diphosphate kinase activity              | 5  | 0329268154 | 0082711845 | 1427 | 20  | 16881 | 2957428171  | 1 | 0.965507423 | 75.78259848 |
| 207 | Down | GOTERM BP DIRECT | GO:0073376 cellular response to peptide hormone stimulus       | 5  | 0329268154 | 0082968599 | 1421 | 20  | 16792 | 2354257565  | 1 | 0.97450001  | 80.33363463 |
| 208 | Down | GOTERM BP DIRECT | GO:1902895 positive regulation of pri-miRNA transcription, fro | 5  | 0329268154 | 0082968599 | 1421 | 20  | 16792 | 2354257565  | 1 | 0.97450001  | 80.33363463 |
| 209 | Down | GOTERM BP DIRECT | GO:0097292 silylation  | 5  | 0329268154 | 0082968599 | 1421 | 20  | 16792 | 2354257565  | 1 | 0.97450001  | 80.33363463 |
| 210 | Down | GOTERM BP DIRECT | GO:0018379 invertebrate biosynthetic process                   | 3  | 0329268154 | 0082968599 | 1421 | 20  | 16792 | 2354257565  | 1 | 0.97450001  | 80.33363463 |
| 211 | Down | GOTERM MF DIRECT | GO:0008134 transcription factor binding                        | 32 | 1872440023 | 0084181079 | 1427 | 284 | 16881 | 13329292373 | 1 | 0.964356106 | 76.41190362 |
| 212 | Down | GOTERM MF DIRECT | GO:0001078 transcriptional repressor activity, RNA polymerase  | 15 | 0777008261 | 0084326378 | 1427 | 111 | 16881 | 1598809822  | 1 | 0.961225838 | 76.47330072 |
| 213 | Down | GOTERM MF DIRECT | GO:1904929 coreceptor activity involved in Wnt signaling path  | 3  | 075941252  | 0085985010 | 1427 | 6   | 16881 | 5914856342  | 1 | 0.959002672 | 76.79143355 |
| 214 | Down | GOTERM MF DIRECT | GO:0004036 adenylate diphosphatase [NAD(P)+] activity          | 3  | 075941252  | 0085985019 | 1427 | 6   | 16881 | 5914856342  | 1 | 0.959002672 | 76.79143355 |
| 215 | Down | GOTERM MF DIRECT | GO:0016174 NAD(P)+ oxidase activity                            | 3  | 075941252  | 0085985019 | 1427 | 6   | 16881 | 5914856342  | 1 | 0.959002672 | 76.79143355 |
| 216 | Down | GOTERM MF DIRECT | GO:0015692 ferrous iron transmembrane transporter activity     | 3  | 075941252  | 0085985019 | 1427 | 6   | 16881 | 5914856342  | 1 | 0.959002672 | 76.79143355 |
| 217 | Down | GOTERM BP DIRECT | GO:0030337 cell projection assembly                            | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 218 | Down | GOTERM BP DIRECT | GO:0028988 negative regulation of leukocyte migration          | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 219 | Down | GOTERM BP DIRECT | GO:0008132 fat pad development                                 | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 220 | Down | GOTERM BP DIRECT | GO:0073224 positive regulation of thymocyte apoptotic proc     | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 221 | Down | GOTERM BP DIRECT | GO:0042437 regulation of neurotransmitter release of dentrit   | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 222 | Down | GOTERM BP DIRECT | GO:0042437 regulation of neurotransmitter release of dentrit   | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 223 | Down | GOTERM BP DIRECT | GO:0004036 adenylate diphosphatase [NAD(P)+] activity          | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 224 | Down | GOTERM BP DIRECT | GO:0006851 positive regulation of sodium ion transmembrane     | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 225 | Down | GOTERM BP DIRECT | GO:0030202 IGG1 protein catabolism                             | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 226 | Down | GOTERM BP DIRECT | GO:0042737 anaerobic catabolic process                         | 3  | 075941252  | 0085985019 | 1427 | 6   | 16792 | 590851513   | 1 | 0.97237654  | 81.23331568 |
| 227 | Down | GOTERM BP DIRECT | GO:0006791 post-embryonic development                          | 11 | 0438512568 | 0086533771 | 1421 | 73  | 16792 | 1780646395  | 1 | 0.970784823 | 81.75229409 |

|     |      |                  |   |     |              |             |             |      |      |       |             |             |             |
|-----|------|------------------|---|-----|--------------|-------------|-------------|------|------|-------|-------------|-------------|-------------|
| 228 | Down | GOTERM:BP_DIRECT | GO:0043123 positive regulation of H-heparin kinase/NF-kappaB cytoskeleton | 20  | 1.170279515  | 0.086583578 | 0.037403522 | 1421 | 161  | 16792 | 1.46795407  | 0.976064107 | 81.76154116 |
| 229 | Down | GOTERM:CC_DIRECT | GO:0005856 cytoskeleton   | 40  | 2.344550028  | 0.037403522 | 0.037403522 | 1535 | 371  | 18224 | 1.280033715 | 0.815027479 | 74.13884636 |
| 230 | Down | GOTERM:MF_DIRECT | GO:0005515 protein binding  | 768 | 44.938565056 | 0.037403522 | 0.037403522 | 1427 | 9785 | 16881 | 1.034174086 | 0.95844546  | 77.780047   |
| 231 | Down | GOTERM:MF_DIRECT | GO:0005506 calcium ion binding  | 72  | 4.21290053   | 0.037403522 | 0.037403522 | 1427 | 717  | 16881 | 1.187920989 | 0.958445188 | 77.86823642 |
| 232 | Down | GOTERM:CC_DIRECT | GO:0005667 transcription factor complex                                   | 23  | 1.345816267  | 0.089883513 | 0.089883513 | 1535 | 193  | 18224 | 1.414635193 | 0.811080882 | 74.96072995 |
| 233 | Down | GOTERM:BP_DIRECT | GO:0060070 canonical Wnt signaling pathway                                | 12  | 0.102165009  | 0.089883513 | 0.089883513 | 1421 | 83   | 16792 | 1.708468303 | 0.978574657 | 82.94161441 |
| 234 | Down | GOTERM:BP_DIRECT | GO:0051591 response to cAMP   | 8   | 0.468110006  | 0.089883513 | 0.089883513 | 1421 | 46   | 16792 | 2.095139897 | 0.977891879 | 82.97242251 |
| 235 | Down | GOTERM:CC_DIRECT | GO:0005814 interstitial matrix  | 4   | 0.244055003  | 0.090254351 | 0.090254351 | 1535 | 13   | 18224 | 3.653019293 | 0.804331723 | 75.22567806 |
| 236 | Down | GOTERM:BP_DIRECT | GO:0001666 response to hypoxia  | 21  | 1.228788765  | 0.090254351 | 0.090254351 | 1421 | 172  | 16792 | 1.44277695  | 0.973394341 | 83.07107739 |
| 237 | Down | GOTERM:MF_DIRECT | GO:0091152 cytokine-type endopeptidase activity involved in               | 4   | 0.244055003  | 0.090254351 | 0.090254351 | 1427 | 13   | 16881 | 3.538911595 | 0.951087243 | 79.05312732 |
| 238 | Down | GOTERM:BP_DIRECT | GO:0070885 mb right axis specification                                    | 4   | 0.244055003  | 0.090254351 | 0.090254351 | 1421 | 13   | 16792 | 0.977335154 | 0.977335154 | 83.34181631 |
| 239 | Down | GOTERM:BP_DIRECT | GO:0033351 methanol catabolic process                                     | 4   | 0.244055003  | 0.090254351 | 0.090254351 | 1421 | 13   | 16792 | 0.977335154 | 0.977335154 | 83.34181631 |
| 240 | Down | GOTERM:BP_DIRECT | GO:0030315 respiratory system process                                     | 4   | 0.244055003  | 0.090254351 | 0.090254351 | 1421 | 13   | 16792 | 0.977335154 | 0.977335154 | 83.34181631 |
| 241 | Down | GOTERM:BP_DIRECT | GO:0006044 N-acetylglucosamine metabolic process                          | 4   | 0.244055003  | 0.090254351 | 0.090254351 | 1421 | 13   | 16792 | 0.977335154 | 0.977335154 | 83.34181631 |
| 242 | Down | GOTERM:BP_DIRECT | GO:0006340 determination of adult lifespan                                | 4   | 0.244055003  | 0.090254351 | 0.090254351 | 1421 | 13   | 16792 | 0.977335154 | 0.977335154 | 83.34181631 |
| 243 | Down | GOTERM:CC_DIRECT | GO:0009814 centrole   | 15  | 0.817706261  | 0.092408311 | 0.092408311 | 1535 | 113  | 18224 | 1.575970713 | 0.803968154 | 76.15659044 |
| 244 | Down | GOTERM:MF_DIRECT | GO:0000287 magnesium ion binding  | 24  | 1.044300118  | 0.094853986 | 0.094853986 | 1427 | 204  | 16881 | 1.391730904 | 0.960511139 | 80.47252929 |
| 245 | Down | GOTERM:MF_DIRECT | GO:0005506 iron ion binding   | 19  | 1.111761264  | 0.084781828 | 0.084781828 | 1427 | 153  | 16881 | 1.469049288 | 0.957634211 | 80.52131717 |
| 246 | Down | GOTERM:BP_DIRECT | GO:0046025 glutathione peroxidase activity                                | 5   | 0.242687254  | 0.095862238 | 0.095862238 | 1427 | 21   | 16881 | 2.185892953 | 0.95801541  | 80.8281735  |
| 247 | Down | GOTERM:BP_DIRECT | GO:0042346 negative regulation of NF-kappaB import into nuc               | 5   | 0.202688754  | 0.095862238 | 0.095862238 | 1421 | 21   | 16792 | 2.113578833 | 0.881103235 | 84.9225578  |





**Supplementary Table S7:**  
**Genes included in the top 30 GO enrichment terms identified for LPA treatment**  
 DAVID Bioinformatics Resources 6.8  
 National Institute of Allergy and Infectious Diseases (NIAID), NIH

| ID   | GO:0070062 <sup>2</sup> extracellular exosome | Gene Name  |
|--|---|--|
| A 24 P316430, A 24 P354715                           |   | 5'-nucleotidase ecto(NTSE)   |
| A 24 P140405   |   | ADAM metalloproteinase with thrombospondin type 1 motif 3(ADAMTS3) |
| A 23 P157299   |   | AE binding protein 1(AEBP1)  |
| A 23 P21363  |   | AHNAK nucleoprotein(AHNAK)   |
| A 23 P215111   |   | ATPase H <sup>+</sup> transporting V0 subunit a4(ATP6V0A4)         |
| A 24 P276932   |   | ATPase H <sup>+</sup> transporting V1 subunit C2(ATP6V1C2)         |
| A 23 P200839   |   | AXL receptor tyrosine kinase(AXL)                                  |
| A 23 P315836, A 23 P61810, A 24 P159648              |   | BAI1 associated protein 2(BAIAP2)                                  |
| A 24 P187948   |   | BH3 interacting domain death agonist(BID)                          |
| A 23 P259663   |   | CD177 molecule(GD177)  |
| A 23 P338479   |   | CD274 molecule(GD274)  |
| A 24 P188377   |   | CD55 molecule (Cromer blood group)(CD55)                           |
| A 23 P70095  |   | CD74 molecule(GD74)  |
| A 23 P397910   |   | Obl proto-oncogene C(OBLC)   |
| A 24 P8671   |   | DnaJ heat shock protein family (Hsp40) member A1(DNAJA1)           |
| A 23 P52847  |   | E1H domain containing 1(EHD1)                                      |
| A 23 P147822   |   | EPS8 like 2(EPS8L2)  |
| A 23 P45999  |   | F-box protein 2(FBXO2)   |
| A 23 P169460   |   | FERM and PDZ domain containing 1(FRMPD1)                           |
| A 23 P397238, A 24 P160001                           |   | FK506 binding protein 1A(FKBP1A)                                   |
| A 32 P71788, A 23 P128372                            |   | FK506 binding protein 4(FKBP4)                                     |
| A 23 P161769   |   | FXID domain containing ion transport regulator 2(FXYD2)            |
| A 23 P36825  |   | G protein-coupled receptor class C group 5 member A(GPRC5A)        |
| A 23 P92202  |   | GDP-mannose pyrophosphorylase B(GMPPB)                             |
| A 24 P273666, A 24 P168574, A 24 P418809             |   | GNAS complex locus(GNAS)   |
| A 23 P94186  |   | LY6/PLAUR domain containing 2(LYPD2)                               |
| A 23 P310  |   | MARCKS like 1(MARCKSL1)  |
| A 23 P73571  |   | MUM1 like 1(MUM1L1)  |
| A 23 P20484  |   | N-myc downstream regulated 1(NDRG1)                                |
| A 23 P208661   |   | NAD(P)H quinone dehydrogenase 1(NGO1)                              |
| A 23 P53856  |   | NEDD4 binding protein 2 like 2(N4BP2L2)                            |
| A 23 P107587   |   | NPC intracellular cholesterol transporter 1(NPC1)                  |
| A 23 P5200   |   | NPHS1, nephrin(NPHS1)  |
| A 23 P52121  |   | PDZ domain containing 1(PDZK1)                                     |
| A 32 P155776   |   | POTE ankyrin domain family member K, pseudogene(POTEKP)            |
| A 24 P193295   |   | RAB15, member RAS oncogene family(RAB15)                           |
| A 23 P5778   |   | RAB17, member RAS oncogene family(RAB17)                           |
| A 23 P388168   |   | RAB3B, member RAS oncogene family(RAB3B)                           |
| A 24 P277295   |   | RAB43, member RAS oncogene family(RAB43)                           |
| A 23 P212545   |   | RAB5A, member RAS oncogene family(RAB5A)                           |
| A 23 P317465   |   | RAB8B, member RAS oncogene family(RAB8B)                           |
| A 24 P38951  |   | RELT tumor necrosis factor receptor(RELT)                          |
| A 23 P216549   |   | RUN and SH3 domain containing 2(RUSC2)                             |
| A 23 P137984   |   | S100 calcium binding protein A10(S100A10)                          |
| A 23 P94890  |   | S100 calcium binding protein A4(S100A4)                            |
| A 23 P201711   |   | S100 calcium binding protein A6(S100A6)                            |
| A 23 P58266  |   | S100 calcium binding protein P(S100P)                              |
| A 23 P148785   |   | SFT2 domain containing 2(SFT2D2)                                   |
| A 23 P307536   |   | SH3 domain containing 21(SH3D21)                                   |
| A 23 P169351   |   | SH3 domain containing GRB2 like 2, endophilin A1(SH3GL2)           |
| A 23 P48988  |   | SH3 domain containing GRB2 like 3, endophilin A3(SH3GL3)           |
| A 24 P364838   |   | SLC9A3 regulator 2(SLC9A3R2)                                       |
| A 23 P353316   |   | SMAD specific E3 ubiquitin protein ligase 1(SMURF1)                |
| A 23 P31896  |   | ST3 beta-galactoside alpha-2,3-sialyltransferase 1(ST3GAL1)        |
| A 24 P181055   |   | ST3 beta-galactoside alpha-2,3-sialyltransferase 4(ST3GAL4)        |
| A 23 P250800   |   | ST3 beta-galactoside alpha-2,3-sialyltransferase 6(ST3GAL6)        |
| A 24 P146670   |   | STE20 like kinase(SLK)   |
| A 23 P305033   |   | TGF-beta activated kinase 1/MAP3K7 binding protein 3(TAB3)         |
| A 23 P82115  |   | TIMP metalloproteinase inhibitor 1(TIMP1)                          |
| A 24 P169986   |   | TIMP metalloproteinase inhibitor 2(TIMP2)                          |
| A 24 P157928   |   | TNF alpha induced protein 3(TNFAIP3)                               |
| A 23 P160154   |   | UDP-galactose-4-epimerase(GALE)                                    |
| A 23 P150876   |   | VPS37B, ESCRT-1 subunit(VPS37B)                                    |
| A 23 P218675, A 24 P14464                            |   | WAP four-disulfide core domain 2(WFDC2)                            |
| A 24 P342096   |   | WW domain containing E3 ubiquitin protein ligase 2(WWP2)           |
| A 23 P411157   |   | Wnt family member 1(WNT1)  |
| A 23 P53588  |   | Wnt family member 5B(WNT5B)  |
| A 23 P258410   |   | Wnt family member 7A(WNT7A)  |
| A 32 P137939   |   | actin beta(ACTB)   |
| A 32 P156963   |   | actin gamma 1(ACTG1)   |
| A 23 P1102   |   | actin, alpha 1, skeletal muscle(ACTA1)                             |
| A 24 P6903   |   | actin, beta like 2(ACTBL2)   |
| A 23 P39955  |   | actin, gamma 2, smooth muscle, enteric(ACTG2)                      |
| A 23 P105957   |   | actinin alpha 1(ACTN1)   |
| A 23 P138881   |   | actinin alpha 3 (gene pseudogene)(ACTN3)                           |
| A 23 P101655   |   | actinin alpha 4(ACTN4)   |
| A 23 P417415   |   | acyl-CoA thioesterase 11(ACOT11)                                   |
| A 24 P82615  |   | adenylate cyclase associated protein 1(CAP1)                       |
| A 23 P253692   |   | adhesion G protein-coupled receptor G2(ADGRG2)                     |
| A 23 P161439   |   | adipogenesis regulatory factor(ADIRF)                              |
| A 23 P103720   |   | agmatinase(AGMAT)  |
| A 23 P205959   |   | aldehyde dehydrogenase 1 family member A3(ALDH1A3)                 |
| A 24 P283324   |   | aldehyde dehydrogenase 8 family member A1(ALDH8A1)                 |
| A 23 P258190   |   | aldo-keto reductase family 1 member B(AKR1B1)                      |
| A 24 P152968, A 23 P257971                           |   | aldo-keto reductase family 1 member C1(AKR1C1)                     |
| A 23 P138541   |   | aldo-keto reductase family 1 member C3(AKR1C3)                     |
| A 23 P78108  |   | aldolase, fructose-bisphosphate C(ALDOC)                           |
| A 23 P382384   |   | allograft inflammatory factor 1 like 1(AIF1L)                      |
| A 23 P71270, A 24 P49267                             |   | alpha-2-glycoprotein 1, zinc-binding(AZGP1)                        |
| A 24 P408457   |   | alpha-N-acetylgalactosaminidase(NAGA)                              |
| A 23 P84836, A 24 P409346                            |   | aminopeptidase puromycin sensitive pseudogene(LOC440434)           |
| A 23 P94501  |   | annexin A1(ANXA1)  |
| A 23 P35399, A 32 P150632                            |   | annexin A11(ANXA11)  |
| A 24 P323114, A 23 P146644, A 24 P204244, A 32 P1483 |   | annexin A2(ANXA2)  |
| A 23 P121716   |   | annexin A3(ANXA3)  |
| A 23 P357104   |   | annexin A6(ANXA6)  |
| A 23 P103617   |   | annexin A9(ANXA9)  |
| A 23 P203191   |   | apolipoprotein A1(APOA1)   |
| A 23 P366812   |   | aquaporin 5(AQP5)  |
| A 23 P26223  |   | argininosuccinate lyase(ASL)                                       |
| A 23 P391607   |   | arrestin domain containing 1(ARRDC1)                               |
| A 23 P7325   |   | bone marrow stromal cell antigen 1(BST1)                           |
| A 23 P152305   |   | cadherin 11(CDH11)   |
| A 23 P100240   |   | cadherin 16(CDH16)   |
| A 23 P202683   |   | cadherin related family member 5(CDHR5)                            |
| A 23 P43197  |   | calbindin 1(CALB1)   |
| A 23 P204679   |   | calcium binding protein 39 like(CAB39L)                            |
| A 24 P84428, A 32 P114574                            |   | calyculin binding protein(CACYBP)                                  |
| A 23 P326170   |   | calmodulin 1(CALM1)  |
| A 24 P382319   |   | carcinoembryonic antigen related cell adhesion molecule 1(CEACAM1) |
| A 23 P138760   |   | cardiotrophin-like cytokine factor 1(GLCF1)                        |
| A 23 P82324  |   | caspase recruitment domain family member 11(CARD11)                |
| A 23 P14774  |   | cathepsin H(CTSH)  |
| A 23 P94533  |   | cathepsin L(CTSL)  |
| A 23 P146456   |   | cathepsin V(CTSV)  |
| A 23 P2064   |   | cell adhesion molecule 4(CADM4)                                    |
| A 23 P56709  |   | charged multivesicular body protein 3(CHMP3)                       |
| A 23 P10156  |   | charged multivesicular body protein 6(CHMP6)                       |
| A 23 P137665   |   | chitinase 3 like 1(CH3L1)  |
| A 23 P259189, A 23 P135499                           |   | chloride intracellular channel 4(CLIC4)                            |
| A 23 P311895, A 23 P416774                           |   | chloride intracellular channel 5(CLIC5)                            |
| A 23 P897  |   | chromosome 1 open reading frame 116(C1orf116)                      |
| A 23 P215913   |   | clusterin(CLU)   |
| A 24 P416131   |   | coactosin like F-actin binding protein 1(COTL1)                    |

|                            |   |
|----------------------------|---|
| A.24 P373152               | cofilin 2(CFL2)   |
| A.23 P69030                | collagen type VIII alpha 1 chain(COL8A1)  |
| A.23 P350396               | corneodesmosin(GDSN)  |
| A.23 P106761               | coronin 1A(CORO1A)  |
| A.24 P206776               | crystallin alpha B(CRYAB)   |
| A.23 P138507               | cyclin dependent kinase 1(GDK1)   |
| A.23 P126103               | cystathionine gamma-lyase(CTH)  |
| A.23 P146946               | cystatin E(MGSTR)   |
| A.23 P74359                | cysteine and glycine rich protein 1(CSRP1)  |
| A.23 P52101                | cytochrome b5 reductase 1(CYBR1)  |
| A.23 P86599                | deleted in malignant brain tumors 1(DMBT1)  |
| A.24 P38347                | dihydropyrimidinase like 2(DPYSL2)  |
| A.23 P416142               | discs large MAGUK scaffold protein 1(DLG1)  |
| A.23 P253586               | dopey family member 2(DOPEY2)   |
| A.24 P43681                | drebrin like(DBNL)  |
| A.23 P407074               | dynamitin 2(DNM2)   |
| A.23 P39931                | dysferlin(DYSF)   |
| A.23 P70318                | ectonucleotide pyrophosphatase/phosphodiesterase 4 (putative)(ENPP4)              |
| A.24 P236091               | enolase 2(ENO2)   |
| A.23 P91081                | epithelial cell adhesion molecule(EPCAM)  |
| A.23 P130027               | epsin 3(EPN3)   |
| A.23 P134109               | erythrocyte membrane protein band 4.1 like 2(EPB41L2)                             |
| A.23 P160559               | extracellular matrix protein 1(ECM1)  |
| A.23 P19590                | ezrin(EZR)  |
| A.23 P50504, A.32 P155247  | ferritin light chain(FTL)   |
| A.23 P302681               | fidgetin like 1(FIGNL1)   |
| A.23 P211878               | filamin B(FLN3)   |
| A.23 P212696               | folistatin like 1(FSTL1)  |
| A.23 P257111               | fructose-bisphosphatase 1(FBP1)   |
| A.23 P360316               | fucosyltransferase 3 (Lewis blood group)(FUT3)                                    |
| A.23 P45475                | galactosidase alpha(GLA)  |
| A.23 P128919               | galectin 3(GALTS3)  |
| A.23 P42695                | gamma-glutamylcyclotransferase(GGCT)  |
| A.23 P66767                | gamma-glutamyltransferase 6(GGT6)   |
| A.23 P201035               | glucosylceramidase beta(GBA)  |
| A.23 P32805                | glutamate ionotropic receptor delta type subunit 1(GRID1)                         |
| A.23 P89908                | glutaredoxin(GLRX)  |
| A.24 P304051               | glutathione S-transferase omega 1(GSTO1)  |
| A.23 P133474               | glutathione peroxidase 3(GPX3)  |
| A.23 P204736               | glycerol-3-phosphate dehydrogenase 1(GPD1)  |
| A.23 P26511                | glycerophosphodiester phosphodiesterase domain containing 3(GDPD3)                |
| A.23 P146512               | golgi membrane protein 1(GOLM1)   |
| A.23 P71440, A.24 P98277   | golgin A7(GOLGA7)   |
| A.24 P393571, A.23 P383258 | guanine deaminase(GDA)  |
| A.23 P63032                | guanylate cyclase activator 2B(GUCA2B)  |
| A.23 P162874, A.32 P199252 | heat shock protein 90 alpha family class A member 1(HSP90AA1)                     |
| A.23 P114903               | heat shock protein family A (Hsp70) member 6(HSPA6)                               |
| A.23 P19691                | heme binding protein 2(HEBP2)   |
| A.23 P148990               | hemicentin 1(HMGN1)   |
| A.23 P156049               | hexosaminidase subunit beta(HEXB)   |
| A.23 P5831                 | hippocalcin like 1(HPPCAL1)   |
| A.23 P250385               | histone cluster 1 H1 family member b(HIST1H1B)                                    |
| A.23 P7976                 | histone cluster 1 H1 family member e(HIST1H1E)                                    |
| A.23 P149545               | histone cluster 2 H2B family member e(HIST2H2BE)                                  |
| A.24 P256018               | histone cluster 2 H2B family member f(HIST2H2BF)                                  |
| A.23 P69329                | hyaluronoglucosaminidase 1(HYAL1)   |
| A.24 P155502               | inhibin beta C subunit(INHBC)   |
| A.23 P150609               | insulin like growth factor 2(IGF2)  |
| A.23 P139912               | insulin like growth factor binding protein 6(IGFBP6)                              |
| A.23 P353035               | insulin like growth factor binding protein 7(IGFBP7)                              |
| A.23 P171074               | integral membrane protein 2A(ITM2A)   |
| A.23 P154507               | integrin subunit beta 1 binding protein 1(ITGB1BP1)                               |
| A.23 P329573               | integrin subunit beta 2(ITGB2)  |
| A.23 P153320               | intercellular adhesion molecule 1(ICAM1)  |
| A.23 P152655               | intercellular adhesion molecule 2(ICAM2)  |
| A.23 P164691               | intercellular adhesion molecule 3(ICAM3)  |
| A.23 P749                  | interferon regulatory factor 6(IRF6)  |
| A.23 P79518                | interleukin 1 beta(IL1B)  |
| A.23 P104798               | interleukin 18(IL18)  |
| A.23 P434347               | intersectin 2(ITSN2)  |
| A.23 P353524               | involucrin(VL)  |
| A.24 P226278               | jade family PHD finger 2(JADE2)   |
| A.23 P167168               | joining chain of multimeric IgA and IgM(JCHAIN)                                   |
| A.24 P410797               | kalirin, RhoGEF kinase(KALRN)   |
| A.23 P101505               | kallikrein related peptidase 11(KLK11)  |
| A.23 P500010               | kallikrein related peptidase 12(KLK12)  |
| A.24 P333697, A.24 P416645 | kallikrein related peptidase 13(KLK13)  |
| A.23 P310257               | kallikrein related peptidase 2(KLK2)  |
| A.24 P228149               | keratin 13(KRT13)   |
| A.23 P27133                | keratin 15(KRT15)   |
| A.23 P66798                | keratin 18(KRT18)   |
| A.23 P107465               | keratin 31(KRT31)   |
| A.23 P89601                | keratin 32(KRT32)   |
| A.23 P89665                | keratin 33(KRT33B)  |
| A.23 P101054               | keratin 34(KRT34)   |
| A.23 P118854               | keratin 37(KRT37)   |
| A.23 P76249                | keratin 6B(KRT6B)   |
| A.23 P64854                | keratin 75(KRT75)   |
| A.23 P363769               | keratin 86(KRT86)   |
| A.23 P54576                | kinsin family member C3(KIFC3)  |
| A.23 P166848               | lactotransferrin(LTF)   |
| A.23 P70719                | laminin subunit alpha 2(LAMA2)  |
| A.23 P89780                | laminin subunit alpha 3(LAMA3)  |
| A.24 P65722                | leukocyte immunoglobulin like receptor B4(LILRB4)                                 |
| A.23 P259821               | linker for activation of T-cells family member 2(LAT2)                            |
| A.23 P169437               | lipocalin 2(LN2)  |
| A.23 P131435, A.24 P396702 | lymphocyte antigen 75(LY75)   |
| A.23 P204847               | lymphocyte cytosolic protein 1(LCP1)  |
| A.24 P370472               | major histocompatibility complex class II DR beta 1(HLA-DRB1)                     |
| A.23 P16743                | mannosyl (alpha-1,6)-glycoprotein beta-1,6-N-acetylglucosaminyltransferase(MGAT5) |
| A.24 P260101               | membrane metalloendopeptidase(MME)  |
| A.23 P10591                | meteorin like, alial cell differentiation regulator(METRNL)                       |
| A.23 P137856               | mucin 1, cell surface associated(MUC1)  |
| A.23 P5211                 | mucin 16, cell surface associated(MUC16)  |
| A.24 P119609, A.23 P389102 | myosin 1D(MYO1D)  |
| A.23 P140434               | myosin VC(MYO5C)  |
| A.23 P4572                 | myosin light chain 12A(MYL12A)  |
| A.24 P56130                | myosin light chain 6(MYL6)  |
| A.23 P62133                | myotubularin 1(MTM1)  |
| A.23 P352370               | nectin cell adhesion molecule 2(NECTIN2)  |
| A.23 P418413               | oxidative stress responsive 1(OXSR1)  |
| A.23 P10442                | oxysterol binding protein like 1A(OXBPL1A)  |
| A.32 P205637               | par-6 family cell polarity regulator beta(PARD6B)                                 |
| A.23 P201747               | peptidyl arginine deiminase 2(PADI2)  |
| A.23 P106906               | periplakin(PPL)   |
| A.23 P128817               | phosphoenolpyruvate carboxykinase 2, mitochondrial(PCK2)                          |
| A.23 P80739                | phospholipase C delta 1(PLCD1)  |
| A.23 P331670               | phosphorylase, glycogen, brain(PYGB)  |
| A.23 P23296                | plakophilin 1(PKFP1)  |
| A.23 P16469                | plasminogen activator, urokinase receptor(PLAUR)                                  |
| A.24 P348806               | pleckstrin homology domain containing A7(PLEKHA7)                                 |
| A.23 P215060               | podocalyxin like(PODXL)   |
| A.24 P65616, A.23 P141894  | poliovirus receptor(PVR)  |
| A.24 P114249               | polypeptide N-acetylgalactosaminyltransferase 3(GALNT3)                           |
| A.23 P109143               | prion protein(PRNP)   |
| A.23 P94412                | programmed cell death 1 ligand 2(PDCD1LG2)  |
| A.23 P71379                | prostate stem cell antigen(PSCA)  |
| A.23 P80377                | protein kinase C and casein kinase substrate in neurons 2(PACSN2)                 |
| A.23 P205567               | protein kinase C eta(PRKCH)   |
| A.23 P122041               | protein phosphatase 2 catalytic subunit alpha(PPP2CA)                             |
| A.23 P140256               | purine nucleoside phosphorylase(PNP)  |

|                           |   |
|---------------------------|---|
| A.24 P318967              | pyridoxal (pyridoxine, vitamin B6) kinase(PDXK)   |
| A.23 P12463               | quiescin sulfhydryl oxidase 1(QSOX1)  |
| A.23 P34233               | quinolinate phosphoribosyltransferase(OPRT)   |
| A.24 P104119              | ras homolog family member F, filopodia associated(RHOF)                                       |
| A.24 P82032               | ras homolog family member J(RHOJ)   |
| A.24 P228717 A.23 P218770 | ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)(RAC2) |
| A.23 P372308              | repulsive guidance molecule family member 3(RGMA)   |
| A.23 P134237              | retinoic acid receptor responder 2(RARRS2)  |
| A.23 P106080              | ribonuclease A family member 2(RNASE2)  |
| A.23 P344421              | roundabout guidance receptor 4(ROBO4)   |
| A.23 P8571                | scavenger receptor cysteine rich family member with 4 domains(SSC4D)                          |
| A.23 P500000              | scieillin(SCEL)   |
| A.24 P190472              | secretory leukocyte peptidase inhibitor(SLPI)   |
| A.23 P49060               | serine peptidase inhibitor, Kunitz type 1(SPINT1)   |
| A.24 P73389               | serine/threonine kinase 24(STK24)   |
| A.23 P214330              | serpin family B member 1(SERPINB1)  |
| A.24 P147461              | serpin family B member 8(SERPINB8)  |
| A.24 P295010              | serpin family B member 9(SERPINB9)  |
| A.23 P144348              | slit guidance ligand 2(SLIT2)   |
| A.23 P397120              | small integral membrane protein 24(SMIM24)  |
| A.23 P82709               | small proline rich protein 3(SPRR3)   |
| A.32 P83098               | sodium channel epithelial 1 beta subunit(SCNN1B)  |
| A.23 P206626              | sodium channel epithelial 1 gamma subunit(SCNN1G)   |
| A.24 P81900               | solute carrier family 2 member 3(SLC2A2)  |
| A.23 P94921               | solute carrier family 20 member 2(SLC20A2)  |
| A.23 P144123              | solute carrier family 22 member 13(SLC22A13)  |
| A.23 P111395              | solute carrier family 22 member 2(SLC22A2)  |
| A.24 P355267              | solute carrier family 25 member 25(SLC25A25)  |
| A.24 P385190              | solute carrier family 4 member 1 (Diego blood group)(SLC4A1)                                  |
| A.24 P10657               | solute carrier family 44 member 2(SLC44A2)  |
| A.24 P684183              | solute carrier family 44 member 4(SLC44A4)  |
| A.23 P17826               | solute carrier family 5 member 1(SLC5A1)  |
| A.24 P365721              | solute carrier family 6 member 14(SLC6A14)  |
| A.24 P350683              | solute carrier family 9 member A1(SLC9A1)   |
| A.23 P77103               | sorbitol dehydrogenase(SORD)  |
| A.24 P179044              | sorting nexin 9(SNX9)   |
| A.23 P203489              | sphingomyelin phosphodiesterase 1(SMPD1)  |
| A.23 P160881              | sphingomyelin phosphodiesterase acid like 3B(SMPDL3B)   |
| A.23 P107981              | sulfotransferase family 2B member 1(SULT2B1)  |
| A.23 P254741              | superoxide dismutase 3, extracellular(SOD3)   |
| A.23 P47282               | suppression of tumorigenicity 14(ST14)  |
| A.23 P83939               | synapse associated protein 1(SYAP1)   |
| A.23 P131899              | syndecan binding protein 2(SDCBP2)  |
| A.23 P139143              | syntaxin 3(STX3)  |
| A.24 P201171              | syntaxin binding protein 1(STXBP1)  |
| A.23 P251293              | synuclein gamma(SNCG)   |
| A.23 P337155              | target of myb1 like 2 membrane trafficking protein(TOM1L2)                                    |
| A.23 P160167              | tetraspanin 1(TSPAN1)   |
| A.24 P142118              | thrombospondin 1(THBS1)   |
| A.23 P85618               | transglutaminase 1(TGM1)  |
| A.32 P86763 A.24 P923251  | transglutaminase 2(TGM2)  |
| A.23 P73331               | transmembrane BAX inhibitor motif containing 1(TMBIM1)  |
| A.24 P400573              | transmembrane channel like 8(TMC8)  |
| A.32 P101860 A.23 P435521 | transmembrane protein 106A(TMEM106A)  |
| A.23 P24716               | transmembrane protein 132A(TMEM132A)  |
| A.23 P101392              | transmembrane protein 38A(TMEM38A)  |
| A.23 P200489              | transmembrane protein 63A(TMEM63A)  |
| A.23 P141974 A.24 P82880  | tropomyosin 4(TPM4)   |
| A.23 P77493               | tubulin beta 3 class III(TUBB3)   |
| A.23 P5392                | tumor protein p53 inducible protein 3(TP53I3)   |
| A.23 P149529              | tumor-associated calcium signal transducer 2(TACSTD2)   |
| A.23 P76690               | ubiquitin C-terminal hydrolase L3(UCHL3)  |
| A.23 P140029              | ubiquitin like 3(UBL3)  |
| A.24 P200219              | uroplakin 1B(UPK1B)   |
| A.23 P84243               | uroplakin 2(UPK2)   |
| A.23 P129695              | vasorin(VASN)   |
| A.23 P161190              | vimentin(VIM)   |
| A.23 P368779              | zinc finger protein 114(ZNF114)   |

**2. GO:0042384 cilium assembly**

| ID                        | Gene Name  |
|---------------------------|--|
| A.23 P312174              | ALMS1, centrosome and basal body associated protein(ALMS1) |
| A.23 P218476              | B9 protein domain 2(B9D2)                                  |
| A.24 P184305              | Bardet-Biedl syndrome 1(BBS1)                              |
| A.23 P99967               | Bardet-Biedl syndrome 4(BBS4)                              |
| A.23 P82351               | Bardet-Biedl syndrome 9(BBS9)                              |
| A.23 P79962               | McKusick-Kaufman syndrome(MKKS)                            |
| A.32 P88050 A.23 P124427  | NMA related kinase 1(NEK1)                                 |
| A.23 P156402              | NME/NM23 family member 5(NME5)                             |
| A.23 P201376              | SSX family member 2 interacting protein(SSX2IP)            |
| A.23 P202520              | actin binding LIM protein 1(ABLIM1)                        |
| A.23 P109885              | cadherin EGF LAG seven-pass G-type receptor 3(CELSR3)      |
| A.23 P145424              | centrosomal protein 162(CEP162)                            |
| A.23 P75609               | centrosomal protein 164(CEP164)                            |
| A.23 P36865               | centrosomal protein 290(CEP290)                            |
| A.23 P215070              | centrosomal protein 41(CEP41)                              |
| A.23 P162378              | centrosomal protein 83(CEP83)                              |
| A.23 P77714               | clusterin associated protein 1(CLUAP1)                     |
| A.24 P73730               | coiled-coil domain containing 113(CCDC113)                 |
| A.23 P92860               | cyclin O(CCNO)   |
| A.23 P502170              | dynein cytoplasmic 2 light intermediate chain 1(DYNC2L1)   |
| A.32 P88533 A.32 P82189   | family with sequence similarity 161 member A(FAM161A)      |
| A.23 P344988              | intestinal cell kinase(ICK)                                |
| A.23 P212447              | intraflagellar transport 122(IFT122)                       |
| A.23 P140725              | intraflagellar transport 140(IFT140)                       |
| A.23 P255714              | intraflagellar transport 74(IFT74)                         |
| A.23 P502350              | regulatory factor 42(RFX2)                                 |
| A.23 P335905              | serine/threonine kinase 36(STK36)                          |
| A.23 P257668              | tetratricopeptide repeat domain 26(TTC26)                  |
| A.24 P17453               | tetratricopeptide repeat domain 30A(TTC30A)                |
| A.23 P408913              | tetratricopeptide repeat domain 30B(TTC30B)                |
| A.32 P169735              | tetratricopeptide repeat domain 8(TTC8)                    |
| A.23 P24723               | transmembrane protein 138(TMEM138)                         |
| A.24 P941831 A.23 P370097 | transmembrane protein 237(TMEM237)                         |
| A.23 P429581              | transmembrane protein 67(TMEM67)                           |
| A.32 P72341               | tripartite motif containing 59(TRIM59)                     |

**3. GO:0090216 keratinocyte differentiation**

| ID                        | Gene Name                                      |
|---------------------------|--|
| A.23 P138541              | aldo-keto reductase family 1 member C3(AKRIC3) |
| A.23 P94501               | annexin A1(ANXA1)                              |
| A.23 P259189 A.23 P135499 | chloride intracellular channel 4(CLIC4)        |
| A.23 P350396              | cornedoesmosin(CDSN)                           |
| A.32 P538928              | desmoglein 4(DSG4)                             |
| A.23 P41344               | epiregulin(EREG)                               |
| A.32 P387648 A.24 P51322  | filaggrin(FLG)                                 |
| A.23 P748                 | interferon regulatory factor 6(IRF6)           |
| A.23 P353524              | involucrin(VL)                                 |
| A.24 P70002               | large tumor suppressor kinase 2(LATS2)         |
| A.23 P404685              | late cornified envelope 1A(LCE1A)              |
| A.23 P303891              | late cornified envelope 1C(LCE1C)              |
| A.24 P207828              | late cornified envelope 2B(LCE2B)              |
| A.23 P83521               | late cornified envelope 2C(LCE2C)              |
| A.23 P369471              | late cornified envelope 3A(LCE3A)              |
| A.23 P224538              | late cornified envelope 3B(LCE3B)              |
| A.23 P405295              | late cornified envelope 3C(LCE3C)              |
| A.23 P115519              | late cornified envelope 3D(LCE3D)              |
| A.23 P34452               | loricrin(LOR)                                  |
| A.23 P500000              | scieillin(SCEL)                                |
| A.23 P11644               | small proline rich protein 2D(SPRR2D)          |
| A.23 P82709               | small proline rich protein 3(SPRR3)            |

|              |  |
|--------------|--|
| A 23 P422018 | small proline rich protein 4(SPRR4)    |
| A 23 P47282  | suppression of tumorigenicity 14(ST14) |
| A 23 P65618  | transglutaminase 1(TGM1)               |

#### 4. GO:0046872 metal ion binding

| ID                         | Gene Name   |
|----------------------------|---|
| A 23 P64828                | 2'-5'-oligoadenylate synthetase 1(OAS1)                                     |
| A 23 P202345               | 2-aminooethanol dioxygenase(ADO)  |
| A 24 P288835               | ADP ribosylation factor like GTPase 3(ARL3)                                 |
| A 24 P18821                | AE binding protein 2(AEBP2)   |
| A 23 P53363                | ATP23 metalloproteinase and ATP synthase assembly factor homolog(ATP23)     |
| A 23 P1072                 | ATPase Na <sup>+</sup> /K <sup>+</sup> transporting subunit alpha 1(ATPIA1) |
| A 24 P307626, A 23 P160177 | ATPase Na <sup>+</sup> /K <sup>+</sup> transporting subunit alpha 4(ATPIA4) |
| A 24 P411186, A 24 P402588 | B-cell CLL/lymphoma 11A(BCL11A)   |
| A 23 P205738               | B-cell CLL/lymphoma 11B(BCL11B)   |
| A 24 P38754                | CDGSH iron sulfur domain 1(CISD1)   |
| A 23 P413923               | DMRT like family A1(DMRTA1)   |
| A 23 P39116                | DNA ligase 1(LIG1)  |
| A 23 P28953                | DNA methyltransferase 3 beta(DNMT3B)  |
| A 23 P319859               | EYA transcriptional coactivator and phosphatase 2(EYA2)                     |
| A 32 P104478               | FYVE, RhoGEF and PH domain containing 6(FYVE6)                              |
| A 23 P131383               | Fanconi anemia complementation group L(FANCL)                               |
| A 23 P105251               | GLI family zinc finger 1(GLI1)  |
| A 23 P309361               | HEN1 methyltransferase homolog 1(HENMT1)                                    |
| A 32 P36694                | JAZF zinc finger 1(JAZF1)   |
| A 32 P197489               | Kruppel like factor 13(KLF13)   |
| A 23 P8452                 | LFNG O-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase(LFNG)          |
| A 23 P317324               | MDS1 and EVI1 complex locus(MECCOM)   |
| A 23 P146551, A 24 P32085  | MOB kinase activator 3B(MOB3B)  |
| A 32 P68050, A 23 P124427  | NIMA related kinase 1(NEK1)   |
| A 23 P211973               | NIMA related kinase 11(NEK11)   |
| A 23 P110473               | NLR family apoptosis inhibitory protein(NAIP)                               |
| A 23 P152115               | NME/NM23 nucleoside diphosphate kinase 3(NME3)                              |
| A 23 P201079               | PR/SET domain 2(PRDM2)  |
| A 23 P251847               | Reske Fe-S domain containing(RFESD)   |
| A 24 P181971               | SAP30 like(SAP30L)  |
| A 23 P102571               | SLC24A4 regulator(SLC24A4RG)  |
| A 24 P711938               | SMAD family member 1(SMAD1)   |
| A 23 P428280               | STEAP2 metalloendopeptidase(STEAP2)   |
| A 23 P121602               | Sin3A associated protein 30(SAP30)  |
| A 24 P350437               | THAP domain containing 2(THAP2)   |
| A 23 P200030               | TNN3 interacting kinase(TNN3K)  |
| A 23 P3856                 | ZFP1 zinc finger protein(ZFP1)  |
| A 23 P133359               | ZFP2 zinc finger protein(ZFP2)  |
| A 23 P99540                | ZFP36 zinc finger protein like 1(ZFP36L1)                                   |
| A 23 P69877                | ZFP62 zinc finger protein(ZFP62)  |
| A 23 P416813               | ZFP82 zinc finger protein(ZFP82)  |
| A 23 P303317               | ZKD family zinc finger C(ZKDC)  |
| A 24 P134319               | activity dependent neuroprotector homeobox(ADNP)                            |
| A 23 P211207               | adenosine deaminase, RNA specific B1(ADARB1)                                |
| A 23 P157599               | alcohol dehydrogenase, iron containing 1(ADHFE1)                            |
| A 32 P122226               | amidohydroxylase domain containing 1(AMDH1)                                 |
| A 23 P217114               | aminolevulinic acid hydratase(ALAD)   |
| A 23 P23611                | amylase, alpha 1A (salivary)(AMY1A)   |
| A 24 P131522, A 23 P84576  | anthrax toxin receptor 1(ANTXR1)  |
| A 23 P258194               | apoptosis inducing factor, mitochondria associated 3(AIFM3)                 |
| A 23 P151653               | apurinic/apyrimidinic endodeoxyribonuclease 1(APEX1)                        |
| A 23 P304304               | arylsulfatase F(ARSF)   |
| A 23 P19030                | arylsulfatase family member I(ARSI)   |
| A 23 P149206               | beta-1,4-galactosyltransferase 2(B4GALT2)                                   |
| A 23 P256735               | carboxypeptidase Q(CPQ)   |
| A 23 P105138               | catalase(CAT)   |
| A 23 P397248               | chloride channel accessory 2(CLCA2)   |
| A 23 P376591               | citrate lyase beta like(CLYBL)  |
| A 24 P38972                | coenzyme Q7 hydroxylase(COQ7)   |
| A 23 P38918                | collagen type V alpha 1 chain(COL5A1)                                       |
| A 23 P30186                | collagen type V alpha 2 chain(COL5A2)                                       |
| A 23 P42322                | collagen type XI alpha 2 chain(COL11A2)                                     |
| A 23 P211212               | collagen type XVIII alpha 1 chain(COL18A1)                                  |
| A 23 P158096               | collagen type XXVII alpha 1 chain(COL27A1)                                  |
| A 23 P2492                 | complement C1s(C1S)   |
| A 24 P345451, A 23 P209564 | cytochrome b reductase 1(CYBRD1)  |
| A 23 P342131               | cytochrome b561 family member A3(CYB561A3)                                  |
| A 32 P174083               | cytochrome c, somatic(CYCS)   |
| A 23 P135548               | dihydropyrimidine dehydrogenase(DPYD)                                       |
| A 23 P40315                | double zinc ribbon and ankyrin repeat domains 1(DZANK1)                     |
| A 23 P214080               | early growth response 1(EGR1)   |
| A 23 P46936                | early growth response 2(EGR2)   |
| A 24 P112447               | ectonucleoside triphosphate diphosphohydrolase 7(ENTPD7)                    |
| A 23 P15944                | elaC ribonuclease Z 1(ELAC1)  |
| A 23 P92281                | endothelin converting enzyme 2(CE2)   |
| A 23 P13183                | exostosin glycosyltransferase 2(EXT2)                                       |
| A 23 P118                  | exostosin like glycosyltransferase 2(EXTL2)                                 |
| A 23 P865                  | ferric chelate reductase 1(FRRS1)   |
| A 23 P47616                | folate hydrolase 1(FOLH1)   |
| A 32 P157391               | folate hydrolase 1B(FOLH1B)   |
| A 23 P161998               | hemopexin(HPX)  |
| A 24 P125283               | histone deacetylase 5(HDAC5)  |
| A 32 P59302                | human immunodeficiency virus type 1 enhancer binding protein 3(HIVEP3)      |
| A 23 P215634               | insulin like growth factor binding protein 3(IGFBP3)                        |
| A 23 P210176               | integrin subunit alpha 6(ITGA6)   |
| A 23 P124108               | integrin subunit alpha M(ITGAM)   |
| A 23 P50907                | integrin subunit alpha V(ITGAV)   |
| A 24 P328254               | kallirin, RhoGEF kinase(KALRN)  |
| A 23 P254861               | lipoic acid synthetase(LIAS)  |
| A 23 P127406               | lysine demethylase 40(LDM4D)  |
| A 23 P18683, A 23 P8108    | major histocompatibility complex, class II, DQ beta 1(HLA-DQB1)             |
| A 23 P23996                | methionine adenosyltransferase 1A(MAT1A)                                    |
| A 23 P90790                | methionyl aminopeptidase, type ID, mitochondrial(METAP1D)                   |
| A 23 P56654                | methylmalonyl-CoA epimerase(MCEE)   |
| A 23 P117274               | mitochondrial intermediate peptidase(MIPEP)                                 |
| A 24 P56317                | muscleblind like splicing regulator 2(MBNL2)                                |
| A 24 P345002               | nudix hydrolase 11(NUDT11)  |
| A 23 P259090               | nudix hydrolase 12(NUDT12)  |
| A 24 P67946                | nudix hydrolase 4(NUDT4)  |
| A 23 P143348               | ovo like zinc finger 2(OVOL2)   |
| A 23 P161297               | oxoglutarate dehydrogenase-like(OGDHL)                                      |
| A 23 P31399                | paraoxonase 2(PON2)   |
| A 23 P215548               | paraoxonase 3(PON3)   |
| A 23 P20732                | paroxysmal nonkinetic dyskinesia(PNKD)                                      |
| A 24 P360529               | phosphodiesterase 7A(PDE7A)   |
| A 24 P197537               | phosphodiesterase 8B(PDE8B)   |
| A 23 P11685                | phospholipase A2 group IVA(PLA2G4A)   |
| A 23 P137035               | pirin(PIR)  |
| A 23 P20275                | pleckstrin homology and FYVE domain containing 2(PLEKH2)                    |
| A 23 P8416                 | polypeptide N-acetylgalactosaminyltransferase 11(GALNT11)                   |
| A 23 P144384               | polypeptide N-acetylgalactosaminyltransferase 7(GALNT7)                     |
| A 23 P48358                | propionyl-CoA carboxylase alpha subunit(PCCA)                               |
| A 24 P64167                | prostaglandin-endoperoxide synthase 1(PTGS1)                                |
| A 24 P111134               | protein O-mannosyltransferase 2(POMT2)                                      |
| A 23 P1374                 | protein kinase C theta(PRKCQ)   |
| A 24 P165656               | protein kinase D3(PRKD3)  |
| A 24 P86234                | queuine tRNA-ribosyltransferase catalytic subunit 1(QTRT1)                  |
| A 23 P94819                | rabphilin 3A-like (without C2 domain)(RPH3AL)                               |
| A 24 P62530                | ras homolog family member 1(RHOU)   |
| A 24 P424561               | ras homolog family member 1(RHOV)   |
| A 23 P158318               | receptor tyrosine kinase like orphan receptor 2(ROR2)                       |
| A 23 P360744               | recombination activating 1(RAG1)  |
| A 23 P9523                 | ribokinase(RBKS)  |
| A 23 P390172               | ribonuclease L(RNASEL)  |
| A 23 P169039               | snail family transcriptional repressor 2(SNAI2)                             |

|                            |   |
|----------------------------|---|
| A 24 P140475, A 23 P121795 | sorbin and SH3 domain containing 2(SORB2)                               |
| A 23 P48585                | spalt like transcription factor 2(SALL2)                                |
| A 23 P134176               | superoxide dismutase 2, mitochondrial(SOD2)                             |
| A 24 P190877               | tRNA methyltransferase 1 like(TRMT1L)                                   |
| A 23 P27381                | teashirt zinc finger homeobox 1(TSHZ1)                                  |
| A 23 P143247               | teashirt zinc finger homeobox 2(TSHZ2)                                  |
| A 24 P346431               | tenasin 3(TNS3)   |
| A 24 P217904               | transcriptional repressing factor 1(TREPF1)                             |
| A 23 P216712               | transient receptor potential cation channel subfamily M member 6(TRPM6) |
| A 23 P354175               | transmembrane protein 129(TMEM129)                                      |
| A 23 P121253               | tumor necrosis factor superfamily member 10(TNFSF10)                    |
| A 24 P273756               | tumor protein p63(TP63)   |
| A 24 P924591               | vascular endothelial zinc finger 1(VEZF1)                               |
| A 24 P84419                | vav guanine nucleotide exchange factor 2(VAV2)                          |
| A 23 P201551               | vav guanine nucleotide exchange factor 3(VAV3)                          |
| A 23 P98483                | zinc finger BED-type containing 5(ZBED5)                                |
| A 23 P20363                | zinc finger C2HC-type containing 1A(ZC2HC1A)                            |
| A 23 P62188                | zinc finger C4H2-type containing(ZC4H2)                                 |
| A 23 P388993               | zinc finger CCOH-type containing 12C(ZC3H12C)                           |
| A 24 P826348               | zinc finger CCOH-type containing 6(ZC3H6)                               |
| A 24 P345540               | zinc finger CCOH-type containing 8(ZC3H8)                               |
| A 32 P104746               | zinc finger CTV-type containing 28(ZF1VE28)                             |
| A 23 P160567               | zinc finger MYND-type containing 12(ZMYND12)                            |
| A 24 P74064                | zinc finger and BTB domain containing 14(ZBTB14)                        |
| A 23 P40866                | zinc finger and BTB domain containing 20(ZBTB20)                        |
| A 24 P339869               | zinc finger and BTB domain containing 21(ZBTB21)                        |
| A 23 P134147               | zinc finger and BTB domain containing 24(ZBTB24)                        |
| A 23 P48628                | zinc finger and BTB domain containing 25(ZBTB25)                        |
| A 23 P137504               | zinc finger and BTB domain containing 37(ZBTB37)                        |
| A 24 P592012               | zinc finger and BTB domain containing 46(ZBTB46)                        |
| A 24 P71700                | zinc finger and BTB domain containing 47(ZBTB47)                        |
| A 23 P309246               | zinc finger and SCAN domain containing 25(ZSCAN25)                      |
| A 23 P214533               | zinc finger and SCAN domain containing 31(ZSCAN31)                      |
| A 24 P215475, A 23 P203829 | zinc finger protein 10(ZNF10)   |
| A 23 P45087                | zinc finger protein 107(ZNF107)   |
| A 23 P107724               | zinc finger protein 112(ZNF112)   |
| A 24 P193900               | zinc finger protein 174(ZNF174)   |
| A 23 P32374                | zinc finger protein 175(ZNF175)   |
| A 24 P168398               | zinc finger protein 177(ZNF177)   |
| A 23 P141302               | zinc finger protein 18(ZNF18)   |
| A 23 P50735                | zinc finger protein 181(ZNF181)   |
| A 23 P156620               | zinc finger protein 184(ZNF184)   |
| A 23 P252748               | zinc finger protein 195(ZNF195)   |
| A 23 P130482               | zinc finger protein 211(ZNF211)   |
| A 23 P127840               | zinc finger protein 214(ZNF214)   |
| A 23 P202458               | zinc finger protein 22(ZNF22)   |
| A 23 P164674               | zinc finger protein 225(ZNF225)   |
| A 23 P371011               | zinc finger protein 227(ZNF227)   |
| A 24 P370096               | zinc finger protein 230(ZNF230)   |
| A 23 P153286               | zinc finger protein 234(ZNF234)   |
| A 24 P89691, A 23 P381577  | zinc finger protein 251(ZNF251)   |
| A 24 P205019               | zinc finger protein 252(ZNF252)   |
| A 24 P22981                | zinc finger protein 253(ZNF253)   |
| A 23 P14708                | zinc finger protein 280(ZNF280)   |
| A 32 P129968               | zinc finger protein 284(ZNF284)   |
| A 23 P209032               | zinc finger protein 302(ZNF302)   |
| A 23 P98057                | zinc finger protein 32(ZNF32)   |
| A 23 P107684               | zinc finger protein 324(ZNF324)   |
| A 24 P83437                | zinc finger protein 326(ZNF326)   |
| A 23 P413634               | zinc finger protein 329(ZNF329)   |
| A 24 P318939               | zinc finger protein 337(ZNF337)   |
| A 24 P137997               | zinc finger protein 34(ZNF34)   |
| A 23 P16354                | zinc finger protein 382(ZNF382)   |
| A 23 P319013               | zinc finger protein 383(ZNF383)   |
| A 23 P146077               | zinc finger protein 393(ZNF393)   |
| A 24 P393665               | zinc finger protein 395(ZNF395)   |
| A 23 P164638               | zinc finger protein 418(ZNF418)   |
| A 23 P380951               | zinc finger protein 420(ZNF420)   |
| A 23 P51202                | zinc finger protein 436(ZNF436)   |
| A 23 P161156               | zinc finger protein 438(ZNF438)   |
| A 23 P434430               | zinc finger protein 439(ZNF439)   |
| A 23 P309865               | zinc finger protein 449(ZNF449)   |
| A 23 P60499                | zinc finger protein 462(ZNF462)   |
| A 23 P326009               | zinc finger protein 471(ZNF471)   |
| A 23 P341700               | zinc finger protein 484(ZNF484)   |
| A 23 P115861               | zinc finger protein 485(ZNF485)   |
| A 23 P23966                | zinc finger protein 488(ZNF488)   |
| A 24 P15062                | zinc finger protein 490(ZNF490)   |
| A 24 P248741               | zinc finger protein 501(ZNF501)   |
| A 24 P404487               | zinc finger protein 506(ZNF506)   |
| A 23 P391164               | zinc finger protein 518(ZNF518)   |
| A 23 P402000               | zinc finger protein 527(ZNF527)   |
| A 23 P433676               | zinc finger protein 529(ZNF529)   |
| A 23 P414713               | zinc finger protein 534(ZNF534)   |
| A 23 P399146               | zinc finger protein 549(ZNF549)   |
| A 24 P68019                | zinc finger protein 551(ZNF551)   |
| A 23 P38830                | zinc finger protein 552(ZNF552)   |
| A 32 P177097               | zinc finger protein 557(ZNF557)   |
| A 24 P284584               | zinc finger protein 559(ZNF559)   |
| A 23 P55880                | zinc finger protein 564(ZNF564)   |
| A 23 P79145                | zinc finger protein 570(ZNF570)   |
| A 23 P301360               | zinc finger protein 572(ZNF572)   |
| A 23 P208198               | zinc finger protein 577(ZNF577)   |
| A 23 P164797               | zinc finger protein 580(ZNF580)   |
| A 23 P67432                | zinc finger protein 583(ZNF583)   |
| A 23 P414964               | zinc finger protein 584(ZNF584)   |
| A 24 P247979               | zinc finger protein 589(ZNF589)   |
| A 23 P321160               | zinc finger protein 594(ZNF594)   |
| A 23 P82762, A 32 P187663  | zinc finger protein 596(ZNF596)   |
| A 23 P169978               | zinc finger protein 608(ZNF608)   |
| A 23 P416751               | zinc finger protein 610(ZNF610)   |
| A 23 P55256                | zinc finger protein 652(ZNF652)   |
| A 23 P419202, A 32 P220739 | zinc finger protein 658 (pseudogene)(ZNF658B)                           |
| A 23 P101623               | zinc finger protein 667(ZNF667)   |
| A 23 P50217                | zinc finger protein 671(ZNF671)   |
| A 24 P944588, A 23 P28012  | zinc finger protein 682(ZNF682)   |
| A 23 P129659               | zinc finger protein 689(ZNF689)   |
| A 24 P254084               | zinc finger protein 69(ZNF69)   |
| A 23 P97221                | zinc finger protein 691(ZNF691)   |
| A 32 P19716                | zinc finger protein 692(ZNF692)   |
| A 24 P344516               | zinc finger protein 702, pseudogene(ZNF702P)                            |
| A 24 P365322               | zinc finger protein 709(ZNF709)   |
| A 23 P217297               | zinc finger protein 711(ZNF711)   |
| A 23 P320530               | zinc finger protein 780A(ZNF780A)                                       |
| A 23 P67618                | zinc finger protein 792(ZNF792)   |
| A 23 P105276               | zinc finger protein 84(ZNF84)   |
| A 24 P450596               | zinc finger protein 850(ZNF850)   |
| A 23 P253921               | zinc finger protein 852(ZNF852)   |
| A 24 P333421               | zinc finger protein 862(ZNF862)   |
| A 23 P168019               | zinc finger with KRAB and SCAN domains 3(ZKSCAN3)                       |
| A 23 P133868               | zinc finger with KRAB and SCAN domains 4(ZKSCAN4)                       |
| A 23 P259663               | zinc finger with KRAB and SCAN domains 5(ZKSCAN5)                       |
| A 23 P43150                | zinc fingers and homeoboxes 1(ZHX1)                                     |

**5. QO:0001893<sup>o</sup> cornified envelope**

| ID           | Gene Name                         |
|--------------|-----------------------------------|
| A 23 P84501  | annexin A1(ANXA1)                 |
| A 23 P350396 | cornodesmosin(CDSN)               |
| A 23 P146946 | cystatin E/(M/CST6)               |
| A 23 P353524 | involuerin(IVL)                   |
| A 23 P404685 | late cornified envelope 1A(LCE1A) |

|              |                                       |
|--------------|---------------------------------------|
| A.23.P303891 | late cornified envelope 1C(LCE1C)     |
| A.24.P207828 | late cornified envelope 2B(LCE2B)     |
| A.23.P63521  | late cornified envelope 2C(LCE2C)     |
| A.23.P369471 | late cornified envelope 3A(LCE3A)     |
| A.23.P324538 | late cornified envelope 3B(LCE3B)     |
| A.23.P405295 | late cornified envelope 3C(LCE3C)     |
| A.23.P115519 | late cornified envelope 3D(LCE3D)     |
| A.23.P34452  | loricrin(LOR)                         |
| A.23.P500000 | scellin(SCEL)                         |
| A.23.P11644  | small proline rich protein 2D(SPRR2D) |
| A.23.P62709  | small proline rich protein 3(SPRR3)   |
| A.23.P422018 | small proline rich protein 4(SPRR4)   |
| A.23.P65618  | transglutaminase 1(TGM1)              |

#### 6. GO:000844\* epidermis development

| ID                         | Gene Name                                      |
|----------------------------|--|
| A.23.P104188               | E74 like ETS transcription factor 3(ELF3)      |
| A.23.P335239               | GRB2 associated binding protein 1(GAB1)        |
| A.23.P313389               | UDP-glucose ceramide glucosyltransferase(UGCG) |
| A.23.P19663                | connective tissue growth factor(CTGF)          |
| A.23.P350396               | corneodesmosin(CDSN)                           |
| A.23.P146946               | cystatin E(MCST6)                              |
| A.23.P75498                | epithelial membrane protein 1(EMP1)            |
| A.23.P52067                | grainyhead like transcription factor 3(GRHL3)  |
| A.23.P153480               | kallikrein related peptidase 5(KLK5)           |
| A.23.P39056                | kallikrein related peptidase 7(KLK7)           |
| A.23.P27133                | keratin 15(KRT15)                              |
| A.23.P107465               | keratin 31(KRT31)                              |
| A.23.P89601                | keratin 32(KRT32)                              |
| A.23.P101054               | keratin 34(KRT34)                              |
| A.24.P410408               | keratin 83(KRT83)                              |
| A.23.P89780                | laminin subunit alpha 3(LAMA3)                 |
| A.23.P160968, A.23.P201636 | laminin subunit gamma 2(LAMC2)                 |
| A.23.P303891               | late cornified envelope 1C(LCE1C)              |
| A.24.P207828               | late cornified envelope 2B(LCE2B)              |
| A.23.P115519               | late cornified envelope 3D(LCE3D)              |
| A.23.P202810               | ovo like transcriptional repressor 1(OVOL1)    |
| A.23.P500000               | scellin(SCEL)                                  |
| A.23.P11644                | small proline rich protein 2D(SPRR2D)          |
| A.23.P62709                | small proline rich protein 3(SPRR3)            |

#### 7. GO:000616\* extracellular space

| ID   | Gene Name  |
|--|--|
| A.24.P140405   | ADAM metallopeptidase with thrombospondin type 1 motif 3(ADAMTS3)  |
| A.24.P128163   | ADAM metallopeptidase with thrombospondin type 1 motif 4(ADAMTS4)  |
| A.32.P196263   | ADAM metallopeptidase with thrombospondin type 1 motif 9(ADAMTS9)  |
| A.23.P157299   | AE binding protein 1(AEBP1)  |
| A.23.P208389   | AXL receptor tyrosine kinase(AXL)                                  |
| A.23.P26325  | C-C motif chemokine ligand 17(CCL17)                               |
| A.24.P313418   | C-C motif chemokine ligand 22(CCL22)                               |
| A.23.P207594   | C-C motif chemokine ligand 4(CCL4)                                 |
| A.24.P211565   | C1q and tumor necrosis factor related protein 6(C1QTNF6)           |
| A.23.P256413   | CKLF like MARVEL transmembrane domain containing 7(CMTM7)          |
| A.23.P119478   | Epstein-Barr virus induced 3(EBI3)                                 |
| A.23.P124892   | KISS-1 metastasis-suppressor(KISS1)                                |
| A.23.P94800  | S100 calcium binding protein A4(S100A4)                            |
| A.23.P62115  | TIMP metallopeptidase inhibitor 1(TIMP1)                           |
| A.24.P169896   | TIMP metallopeptidase inhibitor 2(TIMP2)                           |
| A.23.P71530  | TNF receptor superfamily member 11b(TNFRSF11B)                     |
| A.23.P145485   | UL16 binding protein 2(ULBP2)                                      |
| A.23.P218675, A.24.P14464                            | WAP four-disulfide core domain 2(WFDC2)                            |
| A.23.P411157   | Wnt family member 1(WNT1)  |
| A.23.P53588  | Wnt family member 5B(WNT5B)  |
| A.23.P258410   | Wnt family member 7A(WNT7A)  |
| A.32.P137939   | actin beta(ACTB)   |
| A.32.P139563   | actin gamma 1(ACTG1)   |
| A.23.P1102   | actin alpha 1, skeletal muscle(ACTA1)                              |
| A.24.P6903   | actin beta like 2(ACTBL2)  |
| A.23.P38955  | actin gamma 2, smooth muscle, enteric(ACTG2)                       |
| A.23.P105957   | actinin alpha 1(ACTN1)   |
| A.23.P101655   | actinin alpha 4(ACTN4)   |
| A.23.P258190   | aldo-keto reductase family 1 member B(AKR1B1)                      |
| A.23.P71270, A.24.P49267                             | alpha-2-glycoprotein 1, zinc-binding(AZGP1)                        |
| A.23.P259071   | amphiregulin(AREG)   |
| A.23.P94501  | annexin A1(ANXA1)  |
| A.24.P323114, A.23.P146644, A.24.P204244, A.32.P1483 | annexin A2(ANXA2)  |
| A.23.P203191   | apolipoprotein A1(APOA1)   |
| A.23.P135722   | betacellulin(BTC)  |
| A.23.P19624  | bone morphogenetic protein 6(BMP6)                                 |
| A.23.P19754  | carboxypeptidase A4(CPA4)  |
| A.23.P138524   | carboxypeptidase X, M14 family member 2(CPX2)                      |
| A.23.P218442   | carcinoembryonic antigen related cell adhesion molecule 6(CEACAM6) |
| A.23.P14774  | cathepsin H(CTSH)  |
| A.23.P94533  | cathepsin L(CTSL)  |
| A.23.P146456   | cathepsin V(CTSV)  |
| A.23.P137665   | chitinase 3 like 1(CH3L1)  |
| A.23.P425681   | cholecystokinin(CCK)   |
| A.32.P86150  | chymotrypsinogen B2(CTRB2)   |
| A.23.P215913   | clusterin(CLU)   |
| A.24.P373152   | cofilin 2(CFL2)  |
| A.23.P55544  | collagen and calcium binding EGF domains 1(CCBE1)                  |
| A.23.P133408   | colony stimulating factor 2(CSF2)                                  |
| A.23.P19663  | connective tissue growth factor(CTGF)                              |
| A.23.P146946   | cystatin E(MCST6)  |
| A.23.P169017   | defensin beta 103A(DEFB103A)                                       |
| A.23.P157628   | defensin beta 14A(DEFB4A)  |
| A.23.P88599  | deleted in malignant brain tumors 1(DMBT1)                         |
| A.23.P24129  | dckkof WNT signaling pathway inhibitor 1(DKK1)                     |
| A.23.P156880, A.32.P192376                           | ectonucleotide pyrophosphatase/phosphodiesterase 1(ENPP1)          |
| A.23.P83328  | endoglin(ENG)  |
| A.23.P214821   | endothelin 1(EDN1)   |
| A.23.P312150   | endothelin 2(EDN2)   |
| A.24.P236091   | enolase 2(ENO2)  |
| A.23.P41344  | epiregulin(EREG)   |
| A.23.P349416   | erb-b2 receptor tyrosine kinase 3(ERBB3)                           |
| A.23.P160559   | extracellular matrix protein 1(ECM1)                               |
| A.23.P19590  | ezrin(EZR)   |
| A.23.P213336   | fibroblast growth factor 1(FGF1)                                   |
| A.23.P212800   | fibroblast growth factor 5(FGF5)                                   |
| A.23.P212896   | follicle stimulating hormone like 1(FSTL1)                         |
| A.23.P374844   | galanin and GMAP prepropeptide(GAL)                                |
| A.23.P128919   | galectin 3(LGALS3)   |
| A.23.P201035   | glucosylceramidase beta(GBA)                                       |
| A.23.P133474   | glutathione peroxidase 3(GPX3)                                     |
| A.23.P146512   | golgi membrane protein 1(GOLM1)                                    |
| A.23.P76102  | growth differentiation factor 11(GDF11)                            |
| A.23.P120883   | heme oxygenase 1(HMOX1)  |
| A.24.P140608   | heparin binding EGF like growth factor(HBEGF)                      |
| A.23.P156049   | hexosaminidase subunit beta(HEXB)                                  |
| A.24.P55148  | histone cluster 1 H2B family member delta(HIST1H2BJ)               |
| A.23.P149545   | histone cluster 2 H2B family member epsilon(HIST2H2BE)             |
| A.23.P89329  | hyaluronoglucosaminidase 1(HYAL1)                                  |
| A.24.P155502   | inhibin beta C subunit(INHBC)                                      |
| A.23.P112220   | insulin like 4(INSL4)  |
| A.23.P150609   | insulin like growth factor 2(IGF2)                                 |
| A.23.P139912   | insulin like growth factor binding protein 6(IGFBP6)               |
| A.23.P353035   | insulin like growth factor binding protein 7(IGFBP7)               |
| A.23.P144549   | integrin binding sialoprotein(IBSP)                                |
| A.23.P153320   | intercellular adhesion molecule 1(ICAM1)                           |
| A.23.P409438   | interferon lambda 2(IFNL2)   |
| A.23.P72096  | interleukin 1 alpha(IL1A)  |

|                            |  |
|----------------------------|--|
| A_23_P79518                | interleukin 1 beta(IL1B)   |
| A_23_P501713               | interleukin 1 family member 10 (theta)(IL1F10)                   |
| A_23_P126735               | interleukin 10(IL10)   |
| A_23_P61057                | interleukin 16(IL16)   |
| A_23_P104798               | interleukin 18(IL18)   |
| A_23_P15146                | interleukin 32(IL32)   |
| A_24_P68783                | interleukin 35 receptor antagonist(IL36RN)                       |
| A_23_P6654                 | interleukin 37(IL37)   |
| A_23_P34066                | interleukin 9 receptor(IL9R)                                     |
| A_23_P167188               | joining chain of multimeric IgA and IgM(JCHAIN)                  |
| A_23_P101505               | kallikrein related peptidase 11(KLK11)                           |
| A_23_P500010               | kallikrein related peptidase 12(KLK12)                           |
| A_24_P33697, A_24_P416645  | kallikrein related peptidase 13(KLK13)                           |
| A_23_P153480               | kallikrein related peptidase 5(KLK5)                             |
| A_24_P236935               | kallikrein related peptidase 6(KLK6)                             |
| A_23_P39056                | kallikrein related peptidase 7(KLK7)                             |
| A_23_P369343               | kallikrein related peptidase 8(KLK8)                             |
| A_23_P107465               | keratin 31(KRT31)  |
| A_23_P89665                | keratin 33B(KRT33B)  |
| A_23_P101054               | keratin 34(KRT34)  |
| A_24_P410408               | keratin 83(KRT83)  |
| A_23_P363769               | keratin 86(KRT86)  |
| A_23_P166848               | lactotransferin(LTF)   |
| A_23_P160968, A_23_P201636 | laminin subunit gamma 2(LAMC2)                                   |
| A_24_P122137, A_24_P233488 | leukemia inhibitory factor(LIF)                                  |
| A_23_P84219                | lipase H(LIPH)   |
| A_23_P169437               | lipocalin 2(LCN2)  |
| A_23_P204847               | lymphocyte cytosolic protein 1(LCP1)                             |
| A_24_P88763                | lysyl oxidase like 3(LOXL3)                                      |
| A_23_P13094                | matrix metalloproteinase 10(MMP10)                               |
| A_23_P4714                 | melanoma inhibitory activity(MIA)                                |
| A_23_P10591                | meteorin like, glial cell differentiation regulator(METRNL)      |
| A_23_P137856               | mucin 1, cell surface associated(MUC1)                           |
| A_23_P5211                 | mucin 16, cell surface associated(MUC16)                         |
| A_23_P62752                | natriuretic peptide B(NPPB)                                      |
| A_23_P166408               | oncostatin M(OSM)  |
| A_23_P207336               | pancreatic polypeptide(PPY)                                      |
| A_24_P33944                | platelet derived growth factor subunit B(PDGFB)                  |
| A_23_P215060               | podocalyxin like(PODXL)  |
| A_24_P65616, A_23_P141894  | poliovirus receptor(PVR)   |
| A_23_P257003               | proprotein convertase subtilisin/kexin type 5(PCSK5)             |
| A_23_P12463                | quiescin sulphydryl oxidase 1(QSOX1)                             |
| A_23_P118571               | sclerostin(SOST)   |
| A_23_P312300               | secretoglobin family 2A member 1(SCGB2A1)                        |
| A_24_P190472               | secretory leukocyte peptidase inhibitor(SLPI)                    |
| A_32_P29118                | semaphorin 3D(SEMA3D)  |
| A_23_P127068               | semaphorin 4G(SEMA4G)  |
| A_23_P106389               | semaphorin 7A (John Milton Hagen blood group)(SEMA7A)            |
| A_23_P49060                | serine peptidase inhibitor, Kunitz type 1(SPINT1)                |
| A_23_P88177                | serpin family A member 12(SERPINA12)                             |
| A_23_P372478               | serpin family A member 9(SERPINA9)                               |
| A_23_P214330               | serpin family B member 1(SERPINB1)                               |
| A_24_P245379               | serpin family B member 2(SERPINB2)                               |
| A_23_P141802               | serpin family B member 7(SERPINB7)                               |
| A_24_P147461               | serpin family B member 8(SERPINB8)                               |
| A_24_P295010               | serpin family B member 9(SERPINB9)                               |
| A_23_P144348               | slit guidance ligand 2(SLIT2)                                    |
| A_23_P77103                | sorbitol dehydrogenase(SORD)                                     |
| A_23_P98282                | spectrin beta, non-erythrocytic 2(SPTBN2)                        |
| A_23_P203488               | sphingomyelin phosphodiesterase 1(SMPD1)                         |
| A_23_P160881               | sphingomyelin phosphodiesterase acid like 3B(SMPDL3B)            |
| A_23_P145657               | stromal antigen 3(STAG3)   |
| A_23_P254741               | superoxide dismutase 3, extracellular(SOD3)                      |
| A_23_P47282                | suppression of tumorigenicity 14(ST14)                           |
| A_24_P142718               | thrombospondin 1(THBS1)  |
| A_23_P33070                | tissue factor pathway inhibitor(TFPI)                            |
| A_23_P377291               | transforming growth factor alpha(TGFA)                           |
| A_24_P400573               | transmembrane channel like 8(TMC8)                               |
| A_23_P211493               | transmembrane protease, serine 6(TMPPRS6)                        |
| A_23_P149529               | tumor-associated calcium signal transducer 2(TACSTD2)            |
| A_24_P18270                | upper zone of growth plate and cartilage matrix associated(UOMA) |
| A_23_P129695               | vasorin(VASN)  |

**8QO-0006355 Regulation of transcription, DNA-templated**

| ID                         | Gene Name  |
|----------------------------|--|
| A_23_P44257                | COMM domain containing 8(COMMD8)                                 |
| A_23_P384329               | DENN domain containing 4A(DENND4A)                               |
| A_23_P413923               | DMRT like family A1(DMRTA1)                                      |
| A_23_P94571                | ELAV like RNA binding protein 2(ELAVL2)                          |
| A_23_P252201               | ELL associated factor 2(EAF2)                                    |
| A_23_P368259               | EP300 interacting inhibitor of differentiation 2B(EID2B)         |
| A_23_P319859               | EYA transcriptional coactivator and phosphatase 2(EYA2)          |
| A_24_P127719               | MAF hZIP transcription factor A(MAFA)                            |
| A_23_P317324               | MDS1 and EVI1 complex locus(MECOM)                               |
| A_23_P37654                | MGA, MAX dimerization protein(MGA)                               |
| A_24_P192627, A_23_P216693 | MLLT3, super elongation complex subunit(MLLT3)                   |
| A_23_P6381                 | MN1 proto-oncogene, transcriptional regulator(MN1)               |
| A_24_P191417               | NGFI-A binding protein 1(NAB1)                                   |
| A_23_P149992               | PDZ and LIM domain 1(PDLIM1)                                     |
| A_23_P213959               | PPARG coactivator 1 beta(PPARGC1B)                               |
| A_23_P331908               | PR/SET domain 11(PRDM11)   |
| A_23_P201079               | PR/SET domain 2(PRDM2)   |
| A_23_P117163               | RCO1 and BTB domain containing protein 1(RCOBT1)                 |
| A_24_P945181               | RNA binding motif protein 15B(RBM15B)                            |
| A_23_P75310                | Rho GTPase activating protein 22(ARHGAP22)                       |
| A_24_P181971               | SAP30 like(SAP30L)   |
| A_23_P259741               | SATB homeobox 1(SATB1)   |
| A_32_P174365               | SATB homeobox 2(SATB2)   |
| A_23_P102571               | SLC24A4 regulator(SLC24A4RG)                                     |
| A_23_P48936                | SMAD family member 3(SMAD3)                                      |
| A_23_P120002               | SP110 nuclear body protein(SP110)                                |
| A_24_P328504               | SP140 nuclear body protein(SP140)                                |
| A_23_P401055               | SRY-box 2(SOX2)  |
| A_24_P407259               | SRY-box 21(SOX21)  |
| A_23_P425304               | SUFU negative regulator of hedgehog signaling(SUFU)              |
| A_23_P121602               | Sin3A associated protein 30(SAP30)                               |
| A_24_P23258                | TSC22 domain family member 3(TSC22D3)                            |
| A_23_P3856                 | ZFP1 zinc finger protein(ZFP1)                                   |
| A_23_P133359               | ZFP2 zinc finger protein(ZFP2)                                   |
| A_23_P69540                | ZFP36 ring finger protein like 1(ZFP36L1)                        |
| A_23_P68877                | ZFP62 zinc finger protein(ZFP62)                                 |
| A_23_P416813               | ZFP82 zinc finger protein(ZFP82)                                 |
| A_32_P171061               | achaete-scute family bHLH transcription factor 2(ASCL2)          |
| A_23_P119337               | activating transcription factor 5(ATF5)                          |
| A_23_P129466               | activating transcription factor 7 interacting protein 2(ATF7IP2) |
| A_24_P134319               | activity dependent neuroprotector homeobox(ADNP)                 |
| A_23_P151653               | apurinic/apyrimidinic endodeoxyribonuclease 1(APEX1)             |
| A_23_P215566               | aryl hydrocarbon receptor(AHR)                                   |
| A_23_P139500               | basic helix-loop-helix family member e41(BHLHE41)                |
| A_23_P201979               | cAMP responsive element modulator(CREM)                          |
| A_23_P251421               | cell division cycle associated 7(CDCA7)                          |
| A_23_P115064               | cellular retinoic acid binding protein 2(CRABP2)                 |
| A_23_P372638, A_24_P942250 | chromodomain helicase DNA binding protein 9(CHD9)                |
| A_32_P142818               | distal-less homeobox 1(DLX1)                                     |
| A_23_P164196               | distal-less homeobox 4(DLX4)                                     |
| A_24_P185854               | dystrophin(DMD)  |
| A_23_P46936                | early growth response 2(EGR2)                                    |
| A_23_P58506                | elongation factor for RNA polymerase II 2(ELL2)                  |
| A_23_P44264                | empty spiracles homeobox 2(EMX2)                                 |
| A_23_P309739               | estrogen receptor 1(ESR1)  |
| A_23_P209449               | frizzled class receptor 7(FZD7)                                  |



|                            |  |
|----------------------------|--|
| A 23 P302005               | general transcription factor IIA subunit 1 like(GTF2A1L)               |
| A 24 P271155               | helicase like transcription factor(HLTF)                               |
| A 23 P136909               | high mobility group nucleosome binding domain 5(HMGNS5)                |
| A 23 P500998               | homeobox A9(HOXA9)   |
| A 24 P363548               | huntingtin interacting protein 1(HIP1)                                 |
| A 23 P23765                | interleukin 1 receptor associated kinase 1 binding protein 10(RAK1BP1) |
| A 32 P21474                | irradiation induced protein 3(IRX3)                                    |
| A 23 P152235               | irradiation induced protein 4(IRX4)                                    |
| A 23 P110837               | irradiation induced protein 5(IRX5)                                    |
| A 24 P48057                | l3mbt-like 1 (Drosophila)(L3MBTL1)                                     |
| A 23 P210445               | lysine demethylase 4(KDM4D)  |
| A 23 P127406               | male-specific lethal 3 homolog (Drosophila)(MSL3)                      |
| A 23 P217778               | mitochondrial transcription termination factor 2(MTERF2)               |
| A 23 P53530                | notch 1(NOTCH1)  |
| A 23 P60387                | nuclear factor I A(NFIA)   |
| A 23 P85682                | nuclear receptor coactivator 5(NCOA5)                                  |
| A 23 P315843               | paired like homeodomain 2(PITX2)                                       |
| A 23 P167367               | paired related homeobox 2(PRRX2)                                       |
| A 23 P83298                | pirin(PIR)   |
| A 23 P137035               | poly(ADP-ribose) polymerase family member 14(PARP14)                   |
| A 24 P161018               | proline rich nuclear receptor coactivator 1(PNRC1)                     |
| A 23 P145074               | promyelocytic leukemia(PML)  |
| A 24 P207139               | protein kinase C theta(PRKCG)  |
| A 23 P1374                 | regulatory factor X2(RFX2)   |
| A 23 P502350               | runt related transcription factor 2(RUNX2)                             |
| A 32 P161762               | serine and arginine rich splicing factor 10(SRSF10)                    |
| A 23 P311201               | sex comb on midleg homolog 1 (Drosophila)(SCMH1)                       |
| A 23 P12477                | signal transducer and activator of transcription 3(STAT3)              |
| A 23 P100795               | single stranded DNA binding protein 2(SSBP2)                           |
| A 23 P33791                | thyroid hormone receptor, alpha(THRA)                                  |
| A 23 P207742, A 24 P262407 | transcription elongation factor B subunit 3(TCEB3)                     |
| A 24 P122403               | transcription factor 3(TCF3)   |
| A 24 P365365               | tripartite motif containing 22(TRIM22)                                 |
| A 24 P172481               | tumor protein p53 inducible nuclear protein 1(TP53INP1)                |
| A 23 P168882               | ubiquitin specific peptidase 27, X-linked(USP27X)                      |
| A 23 P171095               | vitamin D (1,25-dihydroxyvitamin D3) receptor(VDR)                     |
| A 23 P162589               | zinc finger NF1-type containing 1(ZNF1)                                |
| A 24 P23034                | zinc finger and BTB domain containing 21(ZBTB21)                       |
| A 24 P339869               | zinc finger and BTB domain containing 24(ZBTB24)                       |
| A 23 P134147               | zinc finger and BTB domain containing 25(ZBTB25)                       |
| A 23 P48628                | zinc finger and BTB domain containing 37(ZBTB37)                       |
| A 23 P137504               | zinc finger and BTB domain containing 46(ZBTB46)                       |
| A 24 P592012               | zinc finger and BTB domain containing 47(ZBTB47)                       |
| A 24 P71700                | zinc finger and SCAN domain containing 25(ZSCAN25)                     |
| A 23 P309246               | zinc finger and SCAN domain containing 31(ZSCAN31)                     |
| A 23 P214533               | zinc finger protein 10(ZNF10)  |
| A 24 P215475, A 23 P203829 | zinc finger protein 107(ZNF107)  |
| A 23 P45087                | zinc finger protein 112(ZNF112)  |
| A 23 P107724               | zinc finger protein 175(ZNF175)  |
| A 23 P332374               | zinc finger protein 177(ZNF177)  |
| A 24 P168398               | zinc finger protein 181(ZNF181)  |
| A 23 P50735                | zinc finger protein 184(ZNF184)  |
| A 23 P156620               | zinc finger protein 195(ZNF195)  |
| A 23 P252748               | zinc finger protein 211(ZNF211)  |
| A 23 P130482               | zinc finger protein 214(ZNF214)  |
| A 23 P127840               | zinc finger protein 22(ZNF22)  |
| A 23 P202458               | zinc finger protein 225(ZNF225)  |
| A 23 P164674               | zinc finger protein 227(ZNF227)  |
| A 23 P371011               | zinc finger protein 230(ZNF230)  |
| A 24 P370096               | zinc finger protein 234(ZNF234)  |
| A 23 P153286               | zinc finger protein 25(ZNF25)  |
| A 24 P69691, A 23 P381577  | zinc finger protein 250(ZNF250)  |
| A 24 P205019               | zinc finger protein 253(ZNF253)  |
| A 24 P22981                | zinc finger protein 284(ZNF284)  |
| A 32 P129968               | zinc finger protein 302(ZNF302)  |
| A 23 P209032               | zinc finger protein 318(ZNF318)  |
| A 24 P204043, A 23 P145175 | zinc finger protein 32(ZNF32)  |
| A 23 P98057                | zinc finger protein 324(ZNF324)  |
| A 23 P107684               | zinc finger protein 329(ZNF329)  |
| A 23 P413634               | zinc finger protein 337(ZNF337)  |
| A 24 P318939               | zinc finger protein 34(ZNF34)  |
| A 24 P137997               | zinc finger protein 382(ZNF382)  |
| A 23 P16354                | zinc finger protein 383(ZNF383)  |
| A 23 P319013               | zinc finger protein 395(ZNF395)  |
| A 23 P146077               | zinc finger protein 419(ZNF419)  |
| A 23 P164638               | zinc finger protein 420(ZNF420)  |
| A 23 P380951               | zinc finger protein 436(ZNF436)  |
| A 23 P51202                | zinc finger protein 438(ZNF438)  |
| A 23 P161156               | zinc finger protein 439(ZNF439)  |
| A 23 P434430               | zinc finger protein 448(ZNF448)  |
| A 23 P309865               | zinc finger protein 471(ZNF471)  |
| A 23 P226009               | zinc finger protein 484(ZNF484)  |
| A 23 P341700               | zinc finger protein 485(ZNF485)  |
| A 23 P115861               | zinc finger protein 490(ZNF490)  |
| A 24 P15062                | zinc finger protein 501(ZNF501)  |
| A 24 P248741               | zinc finger protein 506(ZNF506)  |
| A 24 P404487               | zinc finger protein 512(ZNF512)  |
| A 23 P391164               | zinc finger protein 527(ZNF527)  |
| A 23 P402000               | zinc finger protein 529(ZNF529)  |
| A 23 P433676               | zinc finger protein 534(ZNF534)  |
| A 23 P414713               | zinc finger protein 549(ZNF549)  |
| A 23 P399146               | zinc finger protein 551(ZNF551)  |
| A 24 P68019                | zinc finger protein 552(ZNF552)  |
| A 23 P38830                | zinc finger protein 557(ZNF557)  |
| A 32 P177097               | zinc finger protein 558(ZNF558)  |
| A 24 P284584               | zinc finger protein 570(ZNF570)  |
| A 23 P79145                | zinc finger protein 572(ZNF572)  |
| A 23 P301360               | zinc finger protein 577(ZNF577)  |
| A 23 P208198               | zinc finger protein 580(ZNF580)  |
| A 23 P164797               | zinc finger protein 583(ZNF583)  |
| A 23 P67432                | zinc finger protein 584(ZNF584)  |
| A 23 P414964               | zinc finger protein 589(ZNF589)  |
| A 24 P247978               | zinc finger protein 594(ZNF594)  |
| A 23 P321160               | zinc finger protein 596(ZNF596)  |
| A 23 P82762, A 32 P187663  | zinc finger protein 610(ZNF610)  |
| A 23 P416751               | zinc finger protein 652(ZNF652)  |
| A 23 P55256                | zinc finger protein 658B (pseudogene)(ZNF658B)                         |
| A 23 P419202, A 32 P220739 | zinc finger protein 667(ZNF667)  |
| A 23 P101623               | zinc finger protein 682(ZNF682)  |
| A 24 P044588, A 23 P28012  | zinc finger protein 689(ZNF689)  |
| A 23 P129659               | zinc finger protein 692(ZNF692)  |
| A 24 P254084               | zinc finger protein 691(ZNF691)  |
| A 23 P97221                | zinc finger protein 697(ZNF697)  |
| A 32 P19716                | zinc finger protein 702, pseudogene(ZNF702P)                           |
| A 24 P344516               | zinc finger protein 709(ZNF709)  |
| A 24 P365322               | zinc finger protein 711(ZNF711)  |
| A 23 P217297               | zinc finger protein 780A(ZNF780A)                                      |
| A 23 P320530               | zinc finger protein 792(ZNF792)  |
| A 23 P67618                | zinc finger protein 84(ZNF84)  |
| A 23 P105276               | zinc finger protein 850(ZNF850)  |
| A 24 P450596               | zinc finger protein 852(ZNF852)  |
| A 23 P253921               | zinc finger protein 862(ZNF862)  |
| A 24 P333421               | zinc finger with KRAB and SCAN domains 4(ZKSCAN4)                      |
| A 23 P133868               | zinc finger with KRAB and SCAN domains 5(ZKSCAN5)                      |
| A 23 P259663               |  |

| ID           | Gene Name   |
|--------------|---|
| A 23 P147822 | EPS8 like 2(EPS8L2)                                   |
| A 32 P224149 | FK506 binding protein 15(FKBP15)                      |
| A 24 P194081 | FXD domain containing ion transport regulator 5(FXD5) |

|                            |   |
|----------------------------|---|
| A 23 P83403                | LIM and calponin homology domains 1(LIMCH1)                             |
| A 23 P310                  | MARCKS like 1(MARCKSL1)   |
| A 23 P94800                | S100 calcium binding protein A4(S100A4)                                 |
| A 24 P123408, A 23 P256205 | actin binding LIM protein family member 3(ABLIM3)                       |
| A 23 P138881               | actinin alpha 3 (gene/pseudogene)(ACTN3)                                |
| A 23 P101655               | actinin alpha 4(ACTN4)  |
| A 24 P62615                | ademylate cyclase associated protein 1(CAP1)                            |
| A 23 P356884               | anillin actin binding protein(ANLN)                                     |
| A 32 P167471, A 23 P25706  | calmin(CLMN)  |
| A 23 P125233               | calponin 1(CNN1)  |
| A 23 P138168               | calponin 3(CNN3)  |
| A 24 P382319               | carcinoembryonic antigen related cell adhesion molecule 1(CEACAM1)      |
| A 24 P416131               | coactosin like F-actin binding protein 1(COTL1)                         |
| A 23 P106761               | coronin 1A(CORO1A)  |
| A 32 P150891, A 23 P162719 | diaphanous related formin 3(DIAPH3)                                     |
| A 23 P54116                | dishevelled associated activator of morphogenesis 1(DAAM1)              |
| A 24 P43681                | drebrin like(DBNL)  |
| A 23 P134109               | erythrocyte membrane protein band 4.1 like 2(EPB41L2)                   |
| A 23 P351                  | erythrocyte membrane protein band 4.1(EPB41)                            |
| A 23 P19590                | ezrin(EZR)  |
| A 23 P211878               | filamin B(FLNB)   |
| A 23 P73429                | hematopoietic cell-specific Lyn substrate 1(HCLS1)                      |
| A 32 P176550               | junction mediating and regulatory protein, p53 cofactor(JMY)            |
| A 23 P204847               | lymphocyte cytosolic protein 1(LCP1)                                    |
| A 23 P390068               | mitotic spindle positioning(MISP)                                       |
| A 23 P104438               | myopalladin(MYPN)   |
| A 23 P140434               | myosin V(MYO5C)   |
| A 23 P15348                | myosin phosphatase Rho interacting protein(MPRIP)                       |
| A 24 P168726               | neurofibromin 2(NF2)  |
| A 23 P11240                | phosphatase and actin regulator 2(PHACTR2)                              |
| A 23 P28834                | phosphatase and actin regulator 3(PHACTR3)                              |
| A 24 P119577               | phosphatase and actin regulator 4(PHACTR4)                              |
| A 24 P250815, A 24 P151692 | premature ovarian failure, 1B(POF1B)                                    |
| A 24 P332647               | slingshot protein phosphatase 1(SSH1)                                   |
| A 24 P317907               | sorbin and SH3 domain containing 1(SORBS1)                              |
| A 24 P272088               | spectrin beta, erythrocytic(SPTB)                                       |
| A 23 P82892                | spectrin beta, non-erythrocytic 2(SPTBN2)                               |
| A 23 P355517               | synaptotagmin 2 like(SYNPO2L)   |
| A 23 P87011, A 23 P87013   | transgelin(TAGLN)   |
| A 24 P13381                | transient receptor potential cation channel subfamily V member 4(TRPV4) |
| A 23 P112289               | tropomodulin 1(TM0D1)   |
| A 23 P65674                | tropomodulin 3(TM0D3)   |
| A 23 P131825               | troponin C2, fast skeletal type(TNNC2)                                  |
| A 23 P34700                | troponin T2, cardiac type(TNNT2)  |
| A 23 P29684                | villin like(VILL)   |

**10. QO:0018149<sup>o</sup> peptide cross-linking**

| ID                        | Gene Name                             |
|---------------------------|---------------------------------------|
| A 23 P94501               | annexin A1(ANXA1)                     |
| A 23 P353524              | involucrin(VL)                        |
| A 23 P404885              | late cornified envelope 1A(LCE1A)     |
| A 23 P303891              | late cornified envelope 1C(LCE1C)     |
| A 24 P207828              | late cornified envelope 2B(LCE2B)     |
| A 23 P63521               | late cornified envelope 2C(LCE2C)     |
| A 23 P369471              | late cornified envelope 3A(LCE3A)     |
| A 23 P324538              | late cornified envelope 3B(LCE3B)     |
| A 23 P405295              | late cornified envelope 3C(LCE3C)     |
| A 23 P115519              | late cornified envelope 3D(LCE3D)     |
| A 23 P34452               | loricrin(LOR)                         |
| A 23 P11644               | small proline rich protein 2D(SPRR2D) |
| A 23 P62709               | small proline rich protein 3(SPRR3)   |
| A 23 P422018              | small proline rich protein 4(SPRR4)   |
| A 24 P142118              | thrombospondin 1(THBS1)               |
| A 23 P85618               | transglutaminase 1(TGM1)              |
| A 32 P86763, A 24 P923251 | transglutaminase 2(TGM2)              |

**11. QO:0018898<sup>o</sup> extrinsic component of membrane**

| ID           | Gene Name   |
|--------------|---|
| A 23 P28037  | FERM domain containing 5(FRMD5)                                   |
| A 23 P138693 | N-myristoyltransferase 2(NMT2)                                    |
| A 23 P141394 | WD repeat domain, phosphoinositide interacting 1(WIP1)            |
| A 32 P30905  | WDFY family member 4(WDFY4)                                       |
| A 23 P94501  | annexin A1(ANXA1)   |
| A 23 P361820 | autophagy related 2(ATG2A)  |
| A 23 P7325   | bone marrow stromal cell antigen 1(BST1)                          |
| A 23 P86599  | deleted in malignant brain tumors 1(DMBT1)                        |
| A 23 P134109 | erythrocyte membrane protein band 4.1 like 2(EPB41L2)             |
| A 23 P216556 | erythrocyte membrane protein band 4.1 like 4B(EPB41L4B)           |
| A 23 P351    | erythrocyte membrane protein band 4.1(EPB41)                      |
| A 23 P19590  | ezrin(EZR)  |
| A 23 P17134  | mal, T-cell differentiation protein(MAL)                          |
| A 24 P226008 | monoglyceride lipase(MGLL)  |
| A 23 P5211   | mucin 16, cell surface associated(MUC16)                          |
| A 23 P409168 | neurobeachin like 2(NBEAL2)                                       |
| A 24 P168726 | neurofibromin 2(NF2)  |
| A 23 P16469  | plasminogen activator, urokinase receptor(PLAUR)                  |
| A 23 P109143 | prion protein(PRNP)   |
| A 23 P80377  | protein kinase C and casein kinase substrate in neurons 2(PACSN2) |
| A 23 P414252 | sorting nexin 8(SNX8)   |
| A 24 P122337 | synaptotagmin like 4(SYTL4)                                       |

**12. QO:0005198<sup>o</sup> structural molecule activity**

| ID                        | Gene Name   |
|---------------------------|---|
| A 23 P216108              | ankyrin 1(ANK1)                                       |
| A 23 P94501               | annexin A1(ANXA1)                                     |
| A 24 P18105, A 24 P295245 | aspartate beta-hydroxylase(ASPH)                      |
| A 23 P360924              | claudin 17(CLDN17)                                    |
| A 23 P164284              | claudin 7(CLDN7)                                      |
| A 23 P351138              | claudin 9(CLDN9)                                      |
| A 23 P134109              | erythrocyte membrane protein band 4.1 like 2(EPB41L2) |
| A 23 P351                 | erythrocyte membrane protein band 4.1(EPB41)          |
| A 32 P387648, A 24 P51322 | flaggerin(FLG)  |
| A 23 P353524              | involucrin(VL)  |
| A 24 P228149              | keratin 13(KRT13)                                     |
| A 23 P27133               | keratin 15(KRT15)                                     |
| A 23 P66798               | keratin 19(KRT19)                                     |
| A 23 P78248               | keratin 23(KRT23)                                     |
| A 23 P89601               | keratin 32(KRT32)                                     |
| A 23 P89605               | keratin 33B(KRT33B)                                   |
| A 23 P101054              | keratin 34(KRT34)                                     |
| A 23 P118854              | keratin 37(KRT37)                                     |
| A 23 P2674                | keratin 4(KRT4)                                       |
| A 23 P64854               | keratin 75(KRT75)                                     |
| A 24 P331704              | keratin 80(KRT80)                                     |
| A 24 P410408              | keratin 83(KRT83)                                     |
| A 23 P363769              | keratin 86(KRT86)                                     |
| A 23 P107454              | keratin associated protein 3-1(KRTAP3-1)              |
| A 23 P70719               | laminin subunit alpha 2(LAMA2)                        |
| A 23 P89780               | laminin subunit alpha 3(LAMA3)                        |
| A 23 P404685              | late cornified envelope 1A(LCE1A)                     |
| A 23 P303891              | late cornified envelope 1C(LCE1C)                     |
| A 24 P207828              | late cornified envelope 2B(LCE2B)                     |
| A 23 P63521               | late cornified envelope 2C(LCE2C)                     |
| A 23 P369471              | late cornified envelope 3A(LCE3A)                     |
| A 23 P224538              | late cornified envelope 3B(LCE3B)                     |
| A 23 P405295              | late cornified envelope 3C(LCE3C)                     |
| A 23 P115519              | late cornified envelope 3D(LCE3D)                     |
| A 23 P34452               | loricrin(LOR)   |
| A 23 P163455              | microtubule associated protein 1A(MAP1A)              |
| A 24 P254949              | phosphoglucomutase 5(PGM5)                            |
| A 23 P215900              | scavenger receptor class A member 3(SCARA3)           |

|              |                                       |
|--------------|---------------------------------------|
| A.23.P11644  | small proline rich protein 2D(SPRR2D) |
| A.23.P62709  | small proline rich protein 3(SPRR3)   |
| A.23.P422018 | small proline rich protein 4(SPRR4)   |
| A.24.P200219 | uropalakin 1B(UPK1B)                  |
| A.23.P161190 | vimentin(VIM)                         |

**13.G0:0081424 keratinization**

| ID           | Gene Name                             |
|--------------|---------------------------------------|
| A.23.P353524 | involucrin(INV)                       |
| A.23.P404685 | late cornified envelope 1A(LCE1A)     |
| A.23.P303891 | late cornified envelope 1C(LCE1C)     |
| A.24.P207828 | late cornified envelope 2B(LCE2B)     |
| A.23.P63521  | late cornified envelope 2C(LCE2C)     |
| A.23.P369471 | late cornified envelope 3A(LCE3A)     |
| A.23.P324538 | late cornified envelope 3B(LCE3B)     |
| A.23.P405295 | late cornified envelope 3C(LCE3C)     |
| A.23.P115519 | late cornified envelope 3D(LCE3D)     |
| A.23.P34452  | loricrin(LOR)                         |
| A.23.P106906 | periplakin(PPL)                       |
| A.23.P11644  | small proline rich protein 2D(SPRR2D) |
| A.23.P62709  | small proline rich protein 3(SPRR3)   |
| A.23.P422018 | small proline rich protein 4(SPRR4)   |
| A.23.P65618  | transglutaminase 1(TGM1)              |
| A.32.P98072  | trichohyalin(TCHP)                    |

**14.G0:0043547 positive regulation of GTPase activity**

| ID                                       | Gene Name   |
|--|---|
| A.23.P377664                             | ALS2, alsin Rho guanine nucleotide exchange factor(ALS2)              |
| A.23.P393880                             | ARFGEF family member 3(ARFGEF3)                                       |
| A.23.P167389                             | ArfGAP with RhoGAP domain, ankyrin repeat and PH domain 3(ARAP3)      |
| A.24.P362540                             | ArfGAP with SH3 domain, ankyrin repeat and PH domain 2(ASAP2)         |
| A.23.P26325                              | C-C motif chemokine ligand 17(CCL17)                                  |
| A.24.P313418                             | C-C motif chemokine ligand 22(CCL22)                                  |
| A.23.P207564                             | C-C motif chemokine ligand 4(CCL4)                                    |
| A.23.P1602                               | CDC42 effector protein 2(CDC42EP2)                                    |
| A.23.P251705                             | Cdc42 guanine nucleotide exchange factor 9(ARHGEF9)                   |
| A.23.P43557                              | DENN domain containing 1A(DENN1A)                                     |
| A.24.P4687, A.23.P46315                  | DENN domain containing 2C(DENN2C)                                     |
| A.32.P175301                             | DENN domain containing 3(DENN3)                                       |
| A.23.P200310                             | DEP domain containing 1(DEPDC1)                                       |
| A.23.P401774                             | ELMO domain containing 1(ELMOD1)                                      |
| A.23.P147822                             | EPS8 like 2(EPS8L2)   |
| A.23.P56228                              | GEM interacting protein(GMIP)   |
| A.24.P273666, A.24.P168574, A.24.P418809 | GNAS complex locus(GNAS)  |
| A.24.P59667                              | Janus kinase 3(JAK3)  |
| A.24.P307869                             | LLGL2, scribble cell polarity complex component(LLGL2)                |
| A.23.P45976, A.24.P36880                 | RAP1 GTPase activating protein(RAP1GAP)                               |
| A.23.P18939                              | RAS p21 protein activator 1(RASA1)                                    |
| A.23.P502747                             | RAS protein activator like 2(RASAL2)                                  |
| A.32.P221991                             | Ral GEF with PH domain and SH3 binding motif 1(RALGPS1)               |
| A.24.P173746                             | Ral GEF with PH domain and SH3 binding motif 2(RALGPS2)               |
| A.23.P133095                             | Rap guanine nucleotide exchange factor 2(RAPGEF2)                     |
| A.23.P17192                              | Rap guanine nucleotide exchange factor 4(RAPGEF4)                     |
| A.24.P333571                             | Rho GTPase activating protein 29(ARHGAP29)                            |
| A.23.P35045                              | Rho GTPase activating protein 30(ARHGAP30)                            |
| A.32.P213330                             | Rho guanine nucleotide exchange factor 28(ARHGEF28)                   |
| A.23.P137984                             | S100 calcium binding protein A10(S100A10)                             |
| A.24.P354724                             | T-cell activation RhoGTPase activating protein(TAGAP)                 |
| A.32.P24372                              | TBC1 domain family member 3B(TBC1D3B)                                 |
| A.23.P374695                             | TEK receptor tyrosine kinase(TEK)                                     |
| A.23.P436353, A.23.P256603               | afadin, adherens junction formation factor(AFDN)                      |
| A.23.P31273                              | amphiphysin(AMPH)   |
| A.24.P386622                             | arrestin beta 1(ARRB1)  |
| A.23.P135722                             | betacellulin(BTC)   |
| A.23.P97394                              | breast cancer anti-estrogen resistance 3(BCAR3)                       |
| A.23.P144458, A.32.P47988                | calcium/calmodulin dependent protein kinase II delta(CAMK2D)          |
| A.23.P26170                              | calmodulin 1(CALM1)   |
| A.32.P183970                             | chromosome 15 open reading frame 62(C15orf62)                         |
| A.23.P133408                             | colony stimulating factor 2(CSF2)                                     |
| A.24.P282343                             | cyclin dependent kinase like 5(CDKL5)                                 |
| A.23.P59637                              | dedicator of cytokinesis 4(DOCK4)                                     |
| A.24.P350245                             | dedicator of cytokinesis 5(DOCK5)                                     |
| A.23.P41344                              | epiregulin(EREG)  |
| A.23.P44684                              | epithelial cell transforming 2(ECT2)                                  |
| A.23.P349416                             | erb-b2 receptor tyrosine kinase 3(ERBB3)                              |
| A.23.P213336                             | fibroblast growth factor 1(FGF1)                                      |
| A.23.P212800                             | fibroblast growth factor 5(FGF5)                                      |
| A.23.P414308                             | folliculin(FLCN)  |
| A.32.P377880                             | glial cell derived neurotrophic factor(GDNF)                          |
| A.23.P52067                              | grainyhead like transcription factor 3(GRHL3)                         |
| A.24.P140608                             | heparin binding EGF like growth factor(HBEGF)                         |
| A.23.P85640                              | inositol polyphosphate 5-phosphatase B(INPP5B)                        |
| A.23.P153320                             | intercellular adhesion molecule 1(ICAM1)                              |
| A.24.P203000                             | interleukin 2 receptor subunit beta(IL2RB)                            |
| A.23.P434347                             | intersectin 2(ITSN2)  |
| A.24.P410797                             | kalirin, RhoGEF kinase(KALRN)   |
| A.23.P83931                              | neuroepithelial cell transforming 1(NET1)                             |
| A.24.P273157                             | obscurin, cytoskeletal calmodulin and titin-interacting RhoGEF(OBSCN) |
| A.24.P339944                             | platelet derived growth factor subunit B(PDGFB)                       |
| A.23.P68121                              | pleckstrin and Sec7 domain containing 4(PSD4)                         |
| A.23.P323563                             | pleckstrin homology and RhoGEF domain containing G2(PLEKHG2)          |
| A.23.P149626                             | pleckstrin homology and RhoGEF domain containing G5(PLEKHG5)          |
| A.23.P83383                              | ral guanine nucleotide dissociation stimulator like 2(RGL2)           |
| A.23.P320578                             | regulator of G-protein signaling 16(RGS16)                            |
| A.23.P302560                             | regulator of G-protein signaling 18(RGS18)                            |
| A.23.P114947                             | regulator of G-protein signaling 2(RGS2)                              |
| A.23.P73097                              | regulator of G-protein signaling 20(RGS20)                            |
| A.23.P66881                              | regulator of G-protein signaling 9(RGS9)                              |
| A.23.P127460                             | signal-induced proliferation-associated 1(SIPA1)                      |
| A.24.P179044                             | sorting nexin 9(SNX9)   |
| A.24.P272088                             | spectrin beta, erythrocytic(SPTB)                                     |
| A.23.P98282                              | spectrin beta, non-erythrocytic 2(SPTBN2)                             |
| A.23.P404481                             | sphingosine-1-phosphate receptor 1(S1PR1)                             |
| A.23.P90357                              | thromboxane A2 receptor(TBXA2R)                                       |
| A.23.P425880                             | trio Rho guanine nucleotide exchange factor(TRIO)                     |

**15.G0:0030018 Z disc**

| ID                                      | Gene Name   |
|---|---|
| A.23.P215221, A.32.P229746              | DnaJ, heat shock protein family 1(Hsp40) member B6(DNAJB6)            |
| A.23.P297238, A.24.P160001              | FK506 binding protein 1A(FKBP1A)                                      |
| A.23.P142631                            | FK506 binding protein 1B(FKBP1B)                                      |
| A.23.P129144                            | GRINL1A complex locus 1(GCOM1)  |
| A.23.P105957                            | actinin alpha 1(ACTN1)  |
| A.23.P138881                            | actinin alpha 3 (gene/pseudogene)(ACTN3)                              |
| A.23.P101655                            | actinin alpha 4(ACTN4)  |
| A.23.P216108                            | ankyrin 1(ANK1)   |
| A.24.P373152                            | cofilin 2(CFL2)   |
| A.24.P206776                            | crystallin alpha B(CRYAB)   |
| A.23.P211878                            | filamin B(FLNB)   |
| A.24.P77968                             | filamin C(FLNC)   |
| A.23.P68423, A.23.P394395               | junctional protein 2(JPH2)  |
| A.23.P66798                             | keratin 19(KRT19)   |
| A.23.P104438                            | myopalladin(MYPN)   |
| A.23.P4572                              | myosin light chain 12A(MYL12A)  |
| A.23.P210425                            | myosin light chain 9(MYL9)  |
| A.24.P925737, A.23.P74309, A.23.P103511 | nitric oxide synthase 1 adaptor protein(NOS1AP)                       |
| A.24.P273157                            | obscurin, cytoskeletal calmodulin and titin-interacting RhoGEF(OBSCN) |
| A.24.P254949                            | phosphoglucosyltransferase 5(PGM5)                                    |
| A.23.P500353                            | potassium calcium-activated channel subfamily N member 2(KCNN2)       |
| A.23.P103398                            | presenilin 2(PSEN2)   |
| A.24.P128233                            | sodium voltage-gated channel alpha subunit 5(SCN5A)                   |

|              |  |
|--------------|--|
| A.24.P385190 | solute carrier family 4 member 1 (Diego blood group)(SLC4A1) |
| A.23.P355517 | synaptopodin 2 like(SYNPO2L)                                 |
| A.23.P114983 | tripartite motif containing 63(TRIM63)                       |

**16. GO:0051607 defense response to virus**

| ID           | Gene Name   |
|--------------|---|
| A.23.P64828  | 2'-5'-oligoadenylate synthetase 1(OAS1)                             |
| A.24.P198372 | ATP/GTP binding protein like 5A(GBL5)                               |
| A.23.P352266 | BCL2 apoptosis regulator(BCL2)                                      |
| A.24.P303091 | C-X-C motif chemokine ligand 10(CXCL10)                             |
| A.23.P41470  | DEXH/H-box helicase 60(DDX60)                                       |
| A.23.P38346  | DEXH-box helicase 58(DHX58)   |
| A.23.P7282   | ELMO domain containing 2(ELMOD2)                                    |
| A.23.P110196 | HECT and RLD domain containing E3 ubiquitin protein ligase 5(HERC5) |
| A.23.P17663  | MX dynamin like GTPase 1(MX1)                                       |
| A.23.P26629  | PYD and CARD domain containing(PYCARD)                              |
| A.23.P211207 | adenosine deaminase, RNA specific B1(ADARB1)                        |
| A.32.P9543   | apolipoprotein B mRNA editing enzyme catalytic subunit 3A(APOBEC3A) |
| A.23.P120931 | apolipoprotein B mRNA editing enzyme catalytic subunit 3C(APOBEC3C) |
| A.23.P357101 | apolipoprotein B mRNA editing enzyme catalytic subunit 3F(APOBEC3F) |
| A.23.P39465  | bone marrow stromal cell antigen 2(BST2)                            |
| A.23.P57288  | coxsackie virus and adenovirus receptor(CXADR)                      |
| A.24.P141029 | family with sequence similarity 111 member A(FAM111A)               |
| A.23.P82890  | guanylate binding protein 1(GBP1)                                   |
| A.23.P51487  | guanylate binding protein 3(GBP3)                                   |
| A.23.P211080 | interferon alpha and beta receptor subunit 2(IFNAR2)                |
| A.23.P302060 | interferon epsilon(IFNE)  |
| A.23.P160025 | interferon gamma inducible protein 16(IFI16)                        |
| A.23.P45871  | interferon induced protein 44 like(IFI44L)                          |
| A.23.P41765  | interferon regulatory factor 1(IRF1)                                |
| A.23.P31945  | interleukin 33(IL33)  |
| A.24.P141688 | poly(rC) binding protein 2(PCBP2)                                   |
| A.24.P207139 | promyelocytic leukemia(PML)   |
| A.23.P390172 | ribonuclease L(RNASEL)  |
| A.24.P274270 | signal transducer and activator of transcription 1(STAT1)           |
| A.23.P29922  | toll like receptor 3(TLR3)  |
| A.23.P61371  | transmembrane protein 173(TMEM173)                                  |
| A.24.P172461 | tripartite motif containing 26(TRIM22)                              |
| A.23.P332374 | zinc finger protein 175(ZNF175)                                     |

**17.GO:006829 cilium**

| ID           | Gene Name   |
|--------------|---|
| A.24.P286935 | ADP ribosylation factor like GTPase 3(ARL3)                     |
| A.32.P235796 | Bardet-Biedl syndrome 12(BBS12)                                 |
| A.23.P99967  | Bardet-Biedl syndrome 4(BBS4)                                   |
| A.23.P82351  | Bardet-Biedl syndrome 9(BBS9)                                   |
| A.23.P76731  | MOK protein kinase(MOK)   |
| A.23.P134454 | caveolin 1(CAV1)  |
| A.23.P215070 | centrosomal protein 41(CEP41)                                   |
| A.23.P62642  | cilia and flagella associated protein 45(CFAP45)                |
| A.23.P326931 | cilia and flagella associated protein 70(CFAP70)                |
| A.23.P77714  | clusterin associated protein 1(CLUAP1)                          |
| A.23.P17890  | dynein axonemal light chain 4(DNAL4)                            |
| A.23.P502170 | dynein cytoplasmic 2 light intermediate chain 1(DYNC2L1)        |
| A.23.P344988 | intestinal cell kinase(ICK)                                     |
| A.23.P212447 | intraflagellar transport 122(IFT122)                            |
| A.24.P286527 | intraflagellar transport 22(IFT22)                              |
| A.23.P255714 | intraflagellar transport 74(IFT74)                              |
| A.23.P48339  | intraflagellar transport 88(IFT88)                              |
| A.24.P941824 | kinesin family member 3B(KIF3B)                                 |
| A.23.P112004 | leucine rich repeat containing 6(LRRRC6)                        |
| A.24.P88801  | nephrocystin 1(NPHP1)   |
| A.24.P106112 | polycystin 2, transient receptor potential cation channel(PKD2) |
| A.23.P70818  | smoothened, frizzled class receptor(SMO)                        |
| A.23.P104876 | sperm autoantigenic protein 17(SPA17)                           |
| A.23.P257668 | tetratricopeptide repeat domain 26(TTC26)                       |
| A.24.P17453  | tetratricopeptide repeat domain 30A(TTC30A)                     |
| A.23.P408913 | tetratricopeptide repeat domain 30B(TTC30B)                     |
| A.32.P169735 | tetratricopeptide repeat domain 8(TTC8)                         |
| A.23.P24723  | transmembrane protein 138(TMEM138)                              |
| A.32.P72341  | tripartite motif containing 59(TRIM59)                          |
| A.23.P333852 | tubulin tyrosine ligase like 11(TTLL11)                         |
| A.24.P165450 | tubulin tyrosine ligase like 7(TTLL7)                           |

**18.GO:0060271 cilium morphogenesis**

| ID                         | Gene Name   |
|----------------------------|---|
| A.24.P286935               | ADP ribosylation factor like GTPase 3(ARL3)             |
| A.23.P218476               | B9 protein domain 2(B9D2)                               |
| A.24.P184305               | Bardet-Biedl syndrome 1(BBS1)                           |
| A.23.P99967                | Bardet-Biedl syndrome 4(BBS4)                           |
| A.23.P79962                | McKusick-Kaufman syndrome(MKKS)                         |
| A.32.P68050, A.23.P124427  | NIMA related kinase 1(NEK1)                             |
| A.23.P201376               | SSX family member 2 interacting protein(SSX2IP)         |
| A.23.P145424               | centrosomal protein 162(CEP162)                         |
| A.23.P75609                | centrosomal protein 164(CEP164)                         |
| A.23.P36865                | centrosomal protein 290(CEP290)                         |
| A.23.P215070               | centrosomal protein 41(CEP41)                           |
| A.23.P162378               | centrosomal protein 83(CEP83)                           |
| A.24.P73730                | coiled-coil domain containing 113(CCDC113)              |
| A.23.P92860                | cyclin O(CCNO)  |
| A.32.P68533, A.32.P82189   | family with sequence similarity 161 member A(FAM161A)   |
| A.23.P344988               | intestinal cell kinase(ICK)                             |
| A.23.P212447               | intraflagellar transport 122(IFT122)                    |
| A.23.P140725               | intraflagellar transport 140(IFT140)                    |
| A.23.P255714               | intraflagellar transport 74(IFT74)                      |
| A.23.P48339                | intraflagellar transport 88(IFT88)                      |
| A.23.P60367                | notch 1(NOTCH1)   |
| A.23.P8416                 | polypeptide N-acetylglucosaminyltransferase 11(GALNT11) |
| A.23.P502350               | regulatory factor X2(RFX2)                              |
| A.23.P335905               | serine/threonine kinase 36(STK36)                       |
| A.23.P257668               | tetratricopeptide repeat domain 26(TTC26)               |
| A.32.P169735               | tetratricopeptide repeat domain 8(TTC8)                 |
| A.23.P24723                | transmembrane protein 138(TMEM138)                      |
| A.24.P941831, A.23.P370097 | transmembrane protein 237(TMEM237)                      |
| A.23.P429581               | transmembrane protein 67(TMEM67)                        |

**19.GO:007642 ciliary tip**

| ID           | Gene Name  |
|--------------|--|
| A.23.P105251 | GLI family zinc finger 1(GLI1)                           |
| A.23.P425304 | SUFU negative regulator of hedgehog signaling(SUFU)      |
| A.23.P77714  | clusterin associated protein 1(CLUAP1)                   |
| A.23.P502170 | dynein cytoplasmic 2 light intermediate chain 1(DYNC2L1) |
| A.23.P94840  | dynein light chain roadblock-type 2(DYNLRB2)             |
| A.23.P344988 | intestinal cell kinase(ICK)                              |
| A.23.P212447 | intraflagellar transport 122(IFT122)                     |
| A.23.P140725 | intraflagellar transport 140(IFT140)                     |
| A.24.P286527 | intraflagellar transport 22(IFT22)                       |
| A.23.P255714 | intraflagellar transport 74(IFT74)                       |
| A.23.P48339  | intraflagellar transport 88(IFT88)                       |
| A.24.P941824 | kinesin family member 3B(KIF3B)                          |
| A.23.P70818  | smoothened, frizzled class receptor(SMO)                 |
| A.23.P257668 | tetratricopeptide repeat domain 26(TTC26)                |
| A.23.P408913 | tetratricopeptide repeat domain 30B(TTC30B)              |

**20. GO:0006829 cytosol**

| ID                         | Gene Name  |
|----------------------------|--|
| A.23.P139786               | 2'-5'-oligoadenylate synthetase like(OASL)                     |
| A.32.P76720                | 5'-nucleotidase domain containing 3(NTSDC3)                    |
| A.23.P59547                | 5'-nucleotidase, cytosolic IIIA(NTSC3A)                        |
| A.24.P413669               | 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 2(PFKFB2) |
| A.24.P206604, A.24.P261259 | 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3(PFKFB3) |

|  |   |
|--|---|
| A 23 P21363  | AHNAK nucleoprotein(AHNAK)  |
| A 23 P37664  | ALS2, alsin Rho guanine nucleotide exchange factor(ALS2)            |
| A 23 P148556   | ATP binding cassette subfamily D member 1(ABCD1)                    |
| A 24 P276932   | ATPase H <sup>+</sup> transporting V1 subunit C2(ATP6V1C2)          |
| A 23 P70746  | Abelson helper integration site 1(AH1)                              |
| A 23 P167389   | ArfGAP with RhoGAP domain, ankyrin repeat and PH domain 3(ARAP3)    |
| A 23 P315836, A 23 P61810, A 24 P159648              | BAT1 associated protein 2(BAIAP2)                                   |
| A 23 P134925   | BCL2 interacting protein 3 like(BNIP3L)                             |
| A 23 P210886   | BCL2 like 1(BCL2L1)   |
| A 24 P187948   | BH3 interacting domain death agonist(BID)                           |
| A 23 P163481   | BUB1 mitotic checkpoint serine/threonine kinase B(BUB1B)            |
| A 23 P124417   | BUB1 mitotic checkpoint serine/threonine kinase(BUB1)               |
| A 24 P940149   | C2 calcium dependent domain containing 2(C2CD2)                     |
| A 24 P927325   | C2 calcium dependent domain containing 3(C2CD3)                     |
| A 23 P209394, A 24 P120115                           | CASP8 and FADD like apoptosis regulator(CFLAR)                      |
| A 23 P1602   | CDC42 effector protein 2(CDC42EP2)                                  |
| A 23 P251705   | Cdc42 guanine nucleotide exchange factor 9(ARHGEF9)                 |
| A 23 P101683   | Charcot-Leyden crystal galectin(GLC)                                |
| A 23 P21134  | DNA damage inducible transcript 3(DDIT3)                            |
| A 23 P165937   | DSN1 homolog, MIS12 kinetochore complex component(DSN1)             |
| A 24 P9671   | DnaJ heat shock protein family 1(Hsp40) member A1(DNAJA1)           |
| A 23 P112241   | DnaJ heat shock protein family 1(Hsp40) member B5(DNAJB5)           |
| A 23 P215227, A 32 P229746                           | DnaJ heat shock protein family 1(Hsp40) member B6(DNAJB6)           |
| A 32 P83049  | EFR3 homolog B(EFR3B)   |
| A 23 P45999  | F-box protein 2(FBXO2)  |
| A 23 P363831, A 23 P363826                           | F-box protein 3(FBXO3)  |
| A 23 P169460   | FERM and PDZ domain containing 1(FRMPD1)                            |
| A 23 P14769  | FES proto-oncogene, tyrosine kinase(FES)                            |
| A 23 P397238, A 24 P160001                           | FK506 binding protein 1A(FKBP1A)                                    |
| A 23 P142631   | FK506 binding protein 1B(FKBP1B)                                    |
| A 32 P71788, A 23 P128372                            | FK506 binding protein 4(FKBP4)                                      |
| A 23 P161624   | FOS like 1, AP-1 transcription factor subunit(FOSL1)                |
| A 32 P215938   | G-protein signaling modulator 1(GPSM1)                              |
| A 24 P356338   | GABA type A receptor associated protein like 2(GABARAPL2)           |
| A 23 P56228  | GEM interacting protein(GMIP)                                       |
| A 24 P273666, A 24 P168574, A 24 P418809             | GNAS complex locus(GNAS)  |
| A 23 P355239   | GRB2 associated binding protein 1(GAB1)                             |
| A 24 P8594   | GRP and coiled-coil domain containing 2(GCC2)                       |
| A 23 P77328  | GTP cyclohydrolase 1 feedback regulator(GCFHR)                      |
| A 23 P202408, A 24 P346807                           | HECT and RLD domain containing E3 ubiquitin protein ligase 4(HERC4) |
| A 24 P59667  | Janus kinase 3(JAK3)  |
| A 24 P316939   | LRR binding FLI1 interacting protein 1(LRRFIP1)                     |
| A 23 P57277  | MAP3K7 C-terminal like(MAP3K7CL)                                    |
| A 23 P20494  | N-myc downstream regulated 1(NDRG1)                                 |
| A 23 P138693   | N-myristoyltransferase 2(NMT2)                                      |
| A 23 P206661   | NAD(P)H quinone dehydrogenase 1(NQO1)                               |
| A 23 P50108  | NDC80, kinetochore complex component(NDC80)                         |
| A 23 P89550  | NLR family pyrin domain containing 1(NLRP1)                         |
| A 24 P4962   | NLR family pyrin domain containing 5(NLRP5)                         |
| A 23 P74349  | NUF2, NDC80 kinetochore complex component(NUF2)                     |
| A 24 P186216   | POSS, cohesin associated factor A(POSSA)                            |
| A 23 P8762   | PH domain and leucine rich repeat protein phosphatase 1(PHLPP1)     |
| A 32 P155776   | POT1, ankyrin domain family member K, pseudogene(POTEKP)            |
| A 23 P388168   | RAB3B, member RAS oncogene family(RAB3B)                            |
| A 23 P212545   | RAB5A, member RAS oncogene family(RAB5A)                            |
| A 23 P424513   | RAN binding protein 9(RANBP9)                                       |
| A 23 P45976, A 24 P36890                             | RAP1 GTPase activating protein(RAP1GAP)                             |
| A 23 P18939  | RAS p21 protein activator 1(RASA1)                                  |
| A 23 P502747   | RAS protein activator like 2(RASAL2)                                |
| A 23 P342053   | RB binding protein 6, ubiquitin ligase(RBBP6)                       |
| A 23 P84565  | RNA polymerase III subunit D(POLR3D)                                |
| A 23 P216549   | RUN and SH3 domain containing 2(RUSC2)                              |
| A 23 P133095   | Rap guanine nucleotide exchange factor 2(RAPGEF2)                   |
| A 23 P17192  | Rap guanine nucleotide exchange factor 4(RAPGEF4)                   |
| A 24 P333571   | Rho GTPase activating protein 29(ARHGAP29)                          |
| A 23 P35045  | Rho GTPase activating protein 30(ARHGAP30)                          |
| A 23 P83370  | Rho family GTPase 1(RND1)   |
| A 32 P213330   | Rho guanine nucleotide exchange factor 28(ARHGEF28)                 |
| A 23 P201711   | S100 calcium binding protein A6(S100A6)                             |
| A 23 P257743   | SH2 domain containing adaptor protein B(SHB)                        |
| A 23 P169351   | SH3 domain containing GRB2 like 2, endophilin A1(SH3GL2)            |
| A 23 P374782, A 24 P289139                           | SH3 domain containing kinase binding protein 1(SH3KBP1)             |
| A 23 P353316   | SMAD specific E3 ubiquitin protein ligase 1(SMURF1)                 |
| A 24 P314571   | SPC24, NDC80 kinetochore complex component(SPC24)                   |
| A 23 P51085  | SPC25, NDC80 kinetochore complex component(SPC25)                   |
| A 24 P354724   | T-cell activation RhoGTPase activating protein(TAGAP)               |
| A 24 P943613   | TBC1 domain family member 1(TBC1D1)                                 |
| A 23 P305033   | TGF-beta activated kinase 1/MAP3K7 binding protein 3(TAB3)          |
| A 24 P157926   | TNF alpha induced protein 3(TNFIP3)                                 |
| A 23 P8610   | TPX2, microtubule nucleation factor(TPX2)                           |
| A 23 P135184   | UDP-N-acetylglucosamine pyrophosphorylase 1 like 1(UAP1L1)          |
| A 23 P160460   | UDP-N-acetylglucosamine pyrophosphorylase 1(UAP1)                   |
| A 23 P160154   | UDP-galactose-4-epimerase(GALE)                                     |
| A 24 P398130   | USP6 N-terminal like(USP6NL)  |
| A 23 P4353   | WD repeat and SOCS box containing 1(WSB1)                           |
| A 23 P141394   | WD repeat domain, phosphoinositide interacting 1(WIP1)              |
| A 23 P81392  | WW and C2 domain containing 1(WWC1)                                 |
| A 23 P29769  | WW domain containing transcription regulator 1(WWTR1)               |
| A 32 P178945   | YOD1 deubiquitinase(YOD1)   |
| A 23 P39237  | ZFP36 ring finger protein(ZFP36)                                    |
| A 23 P250294   | abhydrolase domain containing 5(ABHD5)                              |
| A 32 P137939   | actin beta(ACTB)  |
| A 32 P156963   | actin gamma 1(ACTG1)  |
| A 23 P1102   | actin, alpha 1, skeletal muscle(ACTA1)                              |
| A 23 P39955  | actin, gamma 2, smooth muscle, enteric(ACTG2)                       |
| A 23 P105957   | actin, alpha 1(ACTN1)   |
| A 23 P138881   | actin, alpha 3 (gene, pseudogene)(ACTN3)                            |
| A 23 P54488  | acyl-CoA synthetase bubblegum family member 1(ACSBG1)               |
| A 23 P131050   | acyl-CoA synthetase bubblegum family member 2(ACSBG2)               |
| A 23 P417415   | acyl-CoA thioesterase 11(ACOT11)                                    |
| A 24 P304154   | adenosine monophosphate deaminase 3(AMPD3)                          |
| A 23 P436353, A 23 P256603                           | afadin, adherens junction formation factor(AFDN)                    |
| A 24 P73577  | aldehyde dehydrogenase 1 family member A2(ALDH1A2)                  |
| A 23 P205959   | aldehyde dehydrogenase 1 family member A3(ALDH1A3)                  |
| A 24 P283324   | aldehyde dehydrogenase 8 family member A1(ALDH8A1)                  |
| A 23 P258190   | aldo-keto reductase family 1 member B(AKR1B1)                       |
| A 24 P152968, A 23 P257971                           | aldo-keto reductase family 1 member C1(AKR1C1)                      |
| A 23 P138541   | aldo-keto reductase family 1 member C3(AKR1C3)                      |
| A 23 P78108  | aldolase, fructose-bisphosphate C(ALDOC)                            |
| A 32 P12104  | angiotensin promoting complex subunit 1(ANAPC1)                     |
| A 23 P166686   | ankyrin like 2(AMOTL2)  |
| A 23 P216108   | ankyrin 1(ANK1)   |
| A 24 P323114, A 23 P146644, A 24 P204244, A 32 P1483 | annexin A2(ANXA2)   |
| A 23 P103617   | annexin A9(ANXA9)   |
| A 23 P335495   | anoctamin 7(ANO7)   |
| A 23 P144877   | antioxidant 1, copper chaperone(ATOX1)                              |
| A 23 P203191   | apolipoprotein A1(APOA1)  |
| A 23 P83634  | arachidonate 12-lipoxygenase, 12R type(ALOX12B)                     |
| A 23 P26223  | argininosuccinate lyase(ASL)  |
| A 23 P112159   | argonaute 2, RISC catalytic component(AGO2)                         |
| A 23 P401014   | ariadne RBR E3 ubiquitin protein ligase 1(ARIH1)                    |
| A 24 P386622   | arrestin beta 1(ARRB1)  |
| A 23 P131966   | aurora kinase A(AURKA)  |
| A 23 P130182   | aurora kinase B(AURKB)  |
| A 23 P118515   | baculoviral IAP repeat containing 5(BIRC5)                          |
| A 24 P52921  | branched chain amino acid transaminase 1(BCAT1)                     |
| A 24 P414712   | bromodomain and PHD finger containing 3(BRPF3)                      |
| A 23 P43197  | calbindin 1(CALB1)  |
| A 23 P204879   | calcium binding protein 39 like(CAB39L)                             |
| A 23 P144458, A 32 P47988                            | calcium/calmodulin dependent protein kinase II delta(CAMK2D)        |
| A 23 P326170   | calmodulin 1(CALM1)   |

|   |   |
|---|---|
| A.23 P213518, A.23 P434352              | calpastatin(CAST)   |
| A.23 P82324                             | caspase recruitment domain family member 11(CARD11)                       |
| A.23 P14774                             | cathepsin H(CTSH)   |
| A.23 P149200                            | cell division cycle 20(CDC20)   |
| A.24 P913227                            | cell division cycle 23(CDC23)   |
| A.23 P104651                            | cell division cycle associated 5(CDCA5)                                   |
| A.23 P375                               | cell division cycle associated 8(CDCA8)                                   |
| A.23 P253524                            | centromeres protein E(CENPE)  |
| A.23 P401                               | centromeres protein F(CENPF)  |
| A.24 P399888                            | centromeres protein M(CENPM)  |
| A.23 P88740                             | centromeres protein N(CENPN)  |
| A.23 P163580                            | centromeres protein T(CENPT)  |
| A.23 P63281                             | ceramide-1-phosphate transfer protein(OPTP)                               |
| A.23 P56709                             | charged multivesicular body protein 3(CHMP3)                              |
| A.23 P10156                             | charged multivesicular body protein 6(CHMP6)                              |
| A.23 P259189, A.23 P135499              | chloride intracellular channel 4(CLIC4)                                   |
| A.23 P420551                            | citron rho-interacting serine/threonine kinase(CIT)                       |
| A.23 P215913                            | clusterin(CLU)  |
| A.23 P117851                            | complexin 3(CPLX3)  |
| A.23 P19663                             | connective tissue growth factor(CTGF)                                     |
| A.23 P106761                            | coronin 1A(CORO1A)  |
| A.24 P206776                            | crystallin alpha B(CRYAB)   |
| A.23 P122197                            | cyclin B1(CCNB1)  |
| A.23 P65757                             | cyclin B2(CCNB2)  |
| A.23 P209200                            | cyclin E1(CCNE1)  |
| A.23 P138507                            | cyclin dependent kinase 1(CDK1)   |
| A.23 P126103                            | cystathionine gamma-lyase(CTH)  |
| A.23 P166306                            | cystathionine-beta-synthase(CBS)  |
| A.23 P34597                             | cytidine deaminase(CDA)   |
| A.23 P59637                             | dedicator of cytokinesis 4(DOCK4)   |
| A.32 P150891, A.23 P162719              | diaphanous related formin 3(DIAPH3)                                       |
| A.24 P38347                             | dihydropyrimidinase like 2(DPYSL2)  |
| A.23 P416142                            | discs large MAGUK scaffold protein 1(DLG1)                                |
| A.23 P54116                             | dishevelled associated activator of morphogenesis 1(DAAM1)                |
| A.23 P347432, A.23 P201342              | dishevelled segment polarity protein 1(DVL1)                              |
| A.23 P5601                              | docking protein 1(DOK1)   |
| A.23 P253586                            | dopey family member 2(DOPEY2)   |
| A.23 P200328                            | doublecortin(DCX)   |
| A.24 P43681                             | drebrin like(DBNL)  |
| A.23 P255444                            | dual adaptor of phosphotyrosine and 3-phosphoinositides 1(DAPP1)          |
| A.23 P407074                            | dynamitin 2(DNM2)   |
| A.23 P83266                             | endonuclease G(ENDOG)   |
| A.24 P236091                            | enolase 2(ENO2)   |
| A.23 P44684                             | epithelial cell transforming 2(ECT2)                                      |
| A.23 P19590                             | ezrin(EZR)  |
| A.23 P50504, A.32 P155247               | ferritin light chain(FTL)   |
| A.23 P213336                            | fibroblast growth factor 1(FGF1)  |
| A.23 P211878                            | filamin B(FLNB)   |
| A.24 P77968                             | filamin C(FLNC)   |
| A.32 P102062                            | forkhead box O3(FOXO3)  |
| A.23 P25711                             | fructose-bisphosphatase 1(FBP1)   |
| A.23 P42695                             | gamma-glutamylcystyltransferase(GGCT)                                     |
| A.23 P152805                            | gasdermin A(GSDMA)  |
| A.23 P216489                            | glucosamine (UDP-N-acetyl)-2-epimerase/N-acetylmannosamine kinase(GNE)    |
| A.23 P69908                             | glutaredoxin(GLRX)  |
| A.24 P304051                            | glutathione S-transferase omega 1(GSTO1)                                  |
| A.23 P204736                            | glycerol-3-phosphate dehydrogenase 1(GPD1)                                |
| A.23 P122863                            | growth factor receptor bound protein 10(GRB10)                            |
| A.23 P154526                            | growth factor receptor bound protein 14(GRB14)                            |
| A.23 P163992                            | growth factor receptor bound protein 7(GRB7)                              |
| A.24 P393571, A.23 P383258              | guanine deaminase(GDA)  |
| A.23 P201097                            | guanylate kinase 1(GUK1)  |
| A.23 P162874, A.32 P199252              | heat shock protein 90 alpha family class A member 1(HSP90AA1)             |
| A.23 P111132                            | heat shock protein family A (Hsp70) member 1A(HSPA1A)                     |
| A.23 P14903                             | heat shock protein family A (Hsp70) member 6(HSPA6)                       |
| A.23 P181727                            | heat shock protein family B (small) member 2(HSPB2)                       |
| A.23 P153172                            | hematopoietic SH2 domain containing(HSH2D)                                |
| A.23 P120883                            | heme oxygenase 1(HMOX1)   |
| A.24 P75190                             | hemoglobin subunit delta(HBD)   |
| A.32 P175739                            | hexokinase 2(HK2)   |
| A.23 P61637                             | histidine ammonia-lyase(HAL)  |
| A.23 P70007                             | hyaluronan mediated motility receptor(HMMR)                               |
| A.23 P78762                             | hydroxysteroid 17-beta dehydrogenase 14(HSD17B14)                         |
| A.23 P393531                            | inositol polyphosphate-4-phosphatase type 1A(INPP4A)                      |
| A.23 P85640                             | inositol polyphosphate-5-phosphatase B(INPP5B)                            |
| A.23 P5131                              | inositol-3-phosphate synthase 1(ISYNA1)                                   |
| A.23 P65918                             | inositol-trisphosphate 3-kinase A(ITPKA)                                  |
| A.24 P202567                            | inositol-trisphosphate 3-kinase C(ITPKC)                                  |
| A.23 P250156                            | insulin like growth factor 2 mRNA binding protein 2(IGF2BP2)              |
| A.23 P154507                            | integrin subunit beta 1 binding protein 1(ITGB1BP1)                       |
| A.23 P7148                              | interferon regulatory factor 6(IRF6)                                      |
| A.23 P72096                             | interleukin 1 alpha(IL1A)   |
| A.23 P78518                             | interleukin 1 beta(IL1B)  |
| A.23 P61057                             | interleukin 16(IL16)  |
| A.23 P104798                            | interleukin 18(IL18)  |
| A.23 P15146                             | interleukin 32(IL32)  |
| A.23 P5654                              | interleukin 37(IL37)  |
| A.24 P103886                            | isopentenyl-diphosphate delta isomerase 10(DI1)                           |
| A.24 P410797                            | kallirin, RhoGEF kinase(KALRN)  |
| A.32 P27917                             | kinesin family member 26A(KIF26A)   |
| A.23 P34788                             | kinesin family member 2C(KIF2C)   |
| A.23 P315206                            | kyurenine aminotransferase 1(KYAT1)                                       |
| A.24 P70002                             | large tumor suppressor kinase 2(LATS2)                                    |
| A.32 P25269                             | lipin 1(LPIN1)  |
| A.23 P169437                            | lipocalin 2(LCN2)   |
| A.23 P204847                            | lymphocyte cytosolic protein 1(LSCP1)                                     |
| A.23 P54840                             | metallothionein 1A(MT1A)  |
| A.23 P106844                            | metallothionein 2A(MT2A)  |
| A.23 P214907                            | methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1-like(MTHFD1L) |
| A.32 P220715, A.23 P77630               | microtubule associated protein 1 light chain 3 beta(MAP1LC3B)             |
| A.23 P356152                            | mitogen-activated protein kinase 8(MAPK8)                                 |
| A.24 P296698, A.23 P118427              | mitogen-activated protein kinase kinase 3(MAP2K3)                         |
| A.23 P23947                             | mitogen-activated protein kinase kinase kinase 8(MAP3K8)                  |
| A.23 P314584                            | mitogen-activated protein kinase-activated protein kinase 3(MAPKAPK3)     |
| A.24 P226008                            | monoglyceride lipase(MGLL)  |
| A.24 P119609, A.23 P389102              | myosin 1D(MYO1D)  |
| A.23 P4572                              | myosin light chain 12A(MYL12A)  |
| A.23 P162547                            | myosin light chain 2(MYL2)  |
| A.24 P56130                             | myosin light chain 6(MYL6)  |
| A.23 P69738                             | myosin light chain 7(MYL7)  |
| A.23 P210425                            | myosin light chain 9(MYL9)  |
| A.23 P62133                             | myotubularin 1(MTM1)  |
| A.23 P73530                             | myotubularin related protein 1(MTMR1)                                     |
| A.23 P23006                             | nardilysin convertase(NRDC)   |
| A.23 P83931                             | neuroepithelial cell transforming 1(NET1)                                 |
| A.23 P218597                            | neuronal PAS domain protein 2(NPAS2)                                      |
| A.23 P138194                            | neutrophil cytosolic factor 2(NCF2)                                       |
| A.24 P925737, A.23 P74309, A.23 P103511 | nitric oxide synthase 1 adaptor protein(NOS1AP)                           |
| A.24 P273157                            | obscure, cytoskeletal calmodulin and titin-interacting RhoGEF(OBSON)      |
| A.32 P205637                            | par-6 family cell polarity regulator beta(PARD6B)                         |
| A.23 P104692                            | pellino E3 ubiquitin protein ligase family member 3(PELI3)                |
| A.23 P201747                            | peptidyl arginine deiminase 2(PADI2)                                      |
| A.24 P244162                            | phosphatidylinositol 4-kinase type 2 alpha(PI4KA2)                        |
| A.24 P206328                            | phosphodiesterase 1G(PDE1G)   |
| A.23 P401106                            | phosphodiesterase 2A(PDE2A)   |
| A.24 P254949                            | phosphoglucomutase 5(PGM5)  |
| A.24 P208081                            | phospholipase A2 group IIF(PLA2G2F)                                       |
| A.23 P116414                            | phospholipase A2 group XVI(PLA2G16)                                       |
| A.23 P80739                             | phospholipase C delta 1(PLCD1)  |
| A.24 P410952                            | phosphoprotein enriched in astrocytes 15(PEA15)                           |
| A.24 P194503, A.24 P238543              | phosphorylase kinase regulatory subunit alpha 1(PHKA1)                    |

|                            |   |
|----------------------------|---|
| A 23 P323563               | pleckstrin homology and RhoGEF domain containing G2(PLEKHG2)                                  |
| A 23 P146626               | pleckstrin homology and RhoGEF domain containing G5(PLEKHG5)                                  |
| A 24 P915692               | pleckstrin homology like domain family A member 1(PLHDA1)                                     |
| A 23 P155969               | polo like kinase 4(PLK4)  |
| A 24 P151                  | potassium voltage-gated channel subfamily A regulatory beta subunit 2(KCNAB2)                 |
| A 23 P76851, A 24 P298420  | protein arginine methyltransferase 5(PRMT5)   |
| A 23 P258088               | protein kinase C and casein kinase substrate in neurons 1(PACSN1)                             |
| A 23 P90377                | protein kinase C and casein kinase substrate in neurons 2(PACSN2)                             |
| A 23 P205567               | protein kinase C eta(PRKCH)   |
| A 23 P67271                | protein kinase N1(PKN1)   |
| A 23 P90172                | protein phosphatase 1 regulatory subunit 15A(PPP1R15A)  |
| A 23 P122041               | protein phosphatase 2 catalytic subunit alpha(PPP2CA)   |
| A 23 P35796                | protein phosphatase 2 regulatory subunit B beta(PPP2R5B)                                      |
| A 23 P213620               | protein phosphatase 2 regulatory subunit B beta(PPP2R2B)                                      |
| A 24 P213763, A 23 P57413  | protein phosphatase, Mg2+/Mn2+ dependent 1F(PPM1F)  |
| A 23 P206059               | protein regulator of cytokinesis 1(PRC1)  |
| A 23 P56978                | protein tyrosine kinase 6(PTK6)   |
| A 23 P140256               | purine nucleoside phosphorylase(PNP)  |
| A 24 P318967               | pyridoxal (pyridoxine, vitamin B6) kinase(PDXK)   |
| A 23 P22854, A 23 P323730  | pyroglutamyl-peptidase I(PGPEP1)  |
| A 23 P34233                | quinolinate phosphoribosyltransferase(GPRT)   |
| A 24 P104719               | ras homolog family member F, filopodia associated(RHOF)                                       |
| A 24 P60332                | ras homolog family member J(RHOJ)   |
| A 24 P228711, A 23 P218770 | ras-related G3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)(RAC2) |
| A 23 P252106               | receptor interacting serine/threonine kinase 2(RIPK2)   |
| A 23 P114947               | regulator of G-protein signaling 2(RGS2)  |
| A 24 P73389                | serine/threonine kinase 24(STK24)   |
| A 24 P147461               | serpin family B member 8(SERPINB8)  |
| A 24 P295010               | serpin family B member 9(SERPINB9)  |
| A 23 P127460               | signal-induced proliferation-associated 1(SIPA1)  |
| A 23 P152995               | solute carrier family 6 member 4(SLC6A4)  |
| A 24 P317907               | sorbin and SH3 domain containing 1(SORBS1)  |
| A 23 P77103                | sorbitol dehydrogenase(SORD)  |
| A 23 P414252               | sorting nexin 8(SNX8)   |
| A 24 P272088               | spectrin beta, erythrocytic(SPTB)   |
| A 23 P88292                | spectrin beta, non-erythrocytic 2(SPTBN2)   |
| A 23 P102731               | spermine oxidase(SMOX)  |
| A 23 P41948                | spindle apparatus associated protein 1(SPDL1)   |
| A 23 P200096               | sp1A/ryanodine receptor domain and SOCS box containing 1(SPSB1)                               |
| A 23 P128898               | sprouty RTK signaling antagonist 2(SPRY2)   |
| A 23 P320113               | sulfiredoxin 1(SRXN1)   |
| A 23 P107981               | sulfotransferase family 2B member 1(SULT2B1)  |
| A 23 P168556               | syntaxin 1A(STX1A)  |
| A 24 P201171               | syntaxin binding protein 1(STXBP1)  |
| A 23 P107421               | thymidine kinase 1(TK1)   |
| A 24 P201153, A 23 P9293   | tight junction protein 2(TJP2)  |
| A 23 P90311, A 23 P376096  | toll like receptor adaptor molecule 1(TICAM1)   |
| A 32 P86763, A 24 P923251  | transglutaminase 2(TGM2)  |
| A 23 P425880               | trio Rho guanine nucleotide exchange factor(TRIO)   |
| A 24 P153853               | tripartite motif containing 37(TRIM37)  |
| A 23 P112289               | tropomodulin 1(TMODO1)  |
| A 23 P141974, A 24 P82880  | tropomyosin 4(TPM4)   |
| A 23 P166823               | troponin C1, slow skeletal and cardiac type(TNNC1)  |
| A 23 P131825               | troponin C2, fast skeletal type(TNNC2)  |
| A 23 P34700                | troponin T2, cardiac type(TNNT2)  |
| A 23 P320021               | tubby like protein 1(TULP1)   |
| A 23 P5392                 | tumor protein p53 inducible protein 3(TP53I3)   |
| A 23 P149529               | tumor-associated calcium signal transducer 2(TACSTD2)   |
| A 24 P297539               | ubiquitin conjugating enzyme E2 C(UBE2C)  |
| A 24 P13032                | ubiquitin conjugating enzyme E2 D1(UBE2D1)  |
| A 24 P73370                | unc-51 like autophagy activating kinase 1(ULK1)   |
| A 23 P351275, A 23 P147805 | uridine phosphorylase 1(UPP1)   |
| A 23 P10785                | vesicle transport through interaction with t-SNAREs 1A(VT1A)                                  |
| A 23 P161190               | vimentin(VIM)   |

## 21. Q0005515 protein binding

| ID                                      | Gene Name  |
|---|--|
| A 24 P413689                            | beta-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 2(PFKFB2)                        |
| A 23 P214897, A 32 P152437              | A-kinase anchoring protein 12(AKAP12)  |
| A 24 P300777                            | ADAM metallopeptidase domain 8(ADAM8)  |
| A 24 P140405                            | ADAM metallopeptidase with thrombospondin type 1 motif 3(ADAMTS3)                        |
| A 24 P128163                            | ADAM metallopeptidase with thrombospondin type 1 motif 4(ADAMTS4)                        |
| A 23 P115011                            | ADAMTS like 4(ADAMTSL4)  |
| A 24 P414332                            | AF4/FMR2 family member 1(AFF1)   |
| A 23 P21363                             | AHNAK nucleoprotein(AHNAK)   |
| A 23 P377664                            | ALS2, alsin Rho guanine nucleotide exchange factor(ALS2)                                 |
| A 32 P18440                             | AT-rich interaction domain 5B(ARID5B)  |
| A 24 P167984                            | ATM interactor(ATMIN)  |
| A 23 P148556                            | ATP binding cassette subfamily D member 1(ABCD1)   |
| A 24 P355626                            | ATP binding cassette subfamily G member 4(ABCG4)   |
| A 23 P215111                            | ATPase H+ transporting V0 subunit s4(ATP6V0A4)   |
| A 23 P17992                             | ATPase secretory pathway Ca2+ transporting 2(ATP2C2)                                     |
| A 23 P208389                            | AXL receptor tyrosine kinase(AXL)  |
| A 23 P70746                             | Abelson helper integration site 1(AH1)   |
| A 23 P167389                            | ArfGAP with RhoGAP domain, ankyrin repeat and PH domain 3(ARAP3)                         |
| A 24 P362540                            | ArfGAP with SH3 domain, ankyrin repeat and PH domain 2(ASAP2)                            |
| A 23 P315836, A 23 P61810, A 24 P159648 | BAI1 associated protein 2(BAIAP2)  |
| A 23 P134925                            | BCL2 interacting protein 3 like(BNIP3L)  |
| A 23 P210886                            | BCL2 like 1(BCL2L1)  |
| A 24 P187948                            | BH3 interacting domain death agonist(BID)  |
| A 23 P163481                            | BUB1 mitotic checkpoint serine/threonine kinase B(BUB1B)                                 |
| A 23 P124417                            | BUB1 mitotic checkpoint serine/threonine kinase(BUB1)                                    |
| A 23 P88630                             | Bloom syndrome RecQ like helicase(BLM)   |
| A 23 P207564                            | C-C motif chemokine ligand 4(CCL4)   |
| A 24 P148717                            | C-C motif chemokine receptor 1(CCR1)   |
| A 23 P250302                            | C-C motif chemokine receptor 3(CCR3)   |
| A 23 P407565                            | C-X3-C motif chemokine receptor 1(CX3CR1)  |
| A 24 P211565                            | C1q and tumor necrosis factor related protein B(C1QTNF6)                                 |
| A 24 P927325                            | C2 calcium dependent domain containing 3(C2CD3)  |
| A 23 P209394, A 24 P120115              | CASP8 and FADD like apoptosis regulator(CFLAR)   |
| A 23 P259863                            | CD177 molecule(CD177)  |
| A 23 P161076                            | CD2 molecule(CD2)  |
| A 23 P338479                            | CD274 molecule(CD274)  |
| A 23 P416747                            | CD3e molecule(CD3E)  |
| A 24 P188377                            | CD55 molecule (Cromer blood group)(CD55)   |
| A 23 P70095                             | CD74 molecule(CD74)  |
| A 23 P1602                              | CDC42 effector protein 2(CDC42EP2)   |
| A 24 P75220                             | CNKSR family member 3(CNKSR3)  |
| A 24 P160401, A 23 P113613              | CUB domain containing protein 1(CDCP1)   |
| A 23 P141779                            | CXXC finger protein 1(CXXC1)   |
| A 23 P389001                            | CXXC finger protein 5(CXXC5)   |
| A 23 P214989                            | Cbp, p300 interacting transactivator with Glu/Asp rich carboxy-terminal domain 2(CITRD2) |
| A 23 P101683                            | Charcot-Leyden crystal galectin(CLC)   |
| A 23 P47004                             | DEAH-box helicase 32 (putative)(DHX32)   |
| A 23 P200310                            | DEP domain containing 1(DEPDC1)  |
| A 24 P262738                            | DET1 and DDB1 associated 1(DDA1)   |
| A 24 P216253                            | DLG associated protein 4(DLGAP4)   |
| A 23 P88331                             | DLG associated protein 5(DLGAP5)   |
| A 23 P21134                             | DNA damage inducible transcript 3(DDIT3)   |
| A 23 P420373                            | DNA methyltransferase 3 alpha(DNMT3A)  |
| A 23 P211141                            | DS cell adhesion molecule(DSGAM)   |
| A 23 P165937                            | DSNT homolog, MIS12 kinetochore complex component(DSN1)                                  |
| A 24 P9671                              | DnaJ heat shock protein family (Hsp40) member A1(DNAJA1)                                 |
| A 23 P112241                            | DnaJ heat shock protein family (Hsp40) member B5(DNAJB5)                                 |
| A 23 P215227, A 32 P228746              | DnaJ heat shock protein family (Hsp40) member B6(DNAJB6)                                 |
| A 32 P210202                            | E2F transcription factor 7(E2F7)   |
| A 23 P35871                             | E2F transcription factor 8(E2F8)   |
| A 23 P104188                            | E74 like ETS transcription factor 3(ELF3)  |
| A 32 P99753                             | EF-hand calcium binding domain 12(EFCAB12)   |
| A 32 P83049                             | EFR3 homolog B(EFR3B)  |
| A 23 P52647                             | EH domain containing 1(EHD1)   |

|  |  |
|--|--|
| A 23 P338325                             | ELK3, ETS transcription factor(ELK3)   |
| A 23 P82065                              | ELOVL fatty acid elongase 4(ELOVL4)  |
| A 23 P65068                              | EP300 interacting inhibitor of differentiation 3(EID3)   |
| A 24 P285768                             | ER degradation enhancing alpha-mannosidase like protein 1(EDM1)  |
| A 23 P130488                             | ERCC excision repair 2, TFIIH core complex helicase subunit(ERCC2)   |
| A 24 P751074                             | ETS proto-oncogene 1, transcription factor(ETS1)   |
| A 24 P416346                             | ETS variant 4(ETV4)  |
| A 32 P30649                              | ETS variant 5(ETV5)  |
| A 23 P42353                              | ETS variant 7(ETV7)  |
| A 23 P119478                             | Epstein-Barr virus induced 3(EBI3)   |
| A 23 P45999                              | F-box protein 2(FBXO2)   |
| A 24 P113264                             | F-box protein 27(FBXO27)   |
| A 23 P363831, A 23 P363826               | F-box protein 3(FBXO3)   |
| A 23 P420610, A 23 P349083               | FCH domain only 2(FCHO2)   |
| A 23 P169460                             | FERM and PDZ domain containing 1(FRMPD1)   |
| A 23 P26037                              | FERM domain containing 5(FRMD5)  |
| A 23 P14769                              | FES proto-oncogene, tyrosine kinase(FES)   |
| A 32 P224149                             | FK506 binding protein 15(FKBP15)   |
| A 23 P397238, A 24 P160001               | FK506 binding protein 1A(FKBP1A)   |
| A 23 P142631                             | FK506 binding protein 1B(FKBP1B)   |
| A 32 P71788, A 23 P128372                | FK506 binding protein 4(FKBP4)   |
| A 23 P161624                             | FOS like 1, AP-1 transcription factor subunit(FOSL1)   |
| A 23 P206441                             | Fanconi anemia complementation group A(FANCA)  |
| A 23 P143994                             | Fanconi anemia complementation group D2(FANCD2)  |
| A 23 P123096                             | G protein subunit gamma transducin 1(GNGT1)  |
| A 23 P96590                              | G protein-coupled receptor associated sorting protein 1(GPRASP1)   |
| A 23 P36825                              | G protein-coupled receptor class C group 5 member A(GPRC5A)  |
| A 23 P219060                             | G-protein signaling modulator 3(GPSM3)   |
| A 23 P74609                              | G0/G1 switch 2(GOS2)   |
| A 23 P205789                             | GA binding protein transcription factor beta subunit 1(GABPB1)   |
| A 24 P356338                             | GABA type A receptor associated protein like 2(GABARAPL2)  |
| A 23 P92202                              | GDP-mannose pyrophosphorylase B(GMPPB)   |
| A 23 P56228                              | GEM interacting protein(GMIP)  |
| A 24 P273666, A 24 P168574, A 24 P418809 | GNAS complex locus(GNAS)   |
| A 23 P253012                             | GRAM domain containing 1C(GRAMD1C)   |
| A 23 P22350                              | GRAM domain containing 3(GRAMD3)   |
| A 23 P335239                             | GRB2 associated binding protein 1(GAB1)  |
| A 24 P85942                              | GRP and coiled-coil domain containing 2(GCC2)  |
| A 24 P298013, A 23 P379026               | GTP binding protein 2(GTPBP2)  |
| A 23 P257043                             | GTP binding protein overexpressed in skeletal muscle(GEM)  |
| A 23 P77328                              | GTP cyclohydrolase I feedback regulator(GCFHR)   |
| A 23 P152420                             | Gse1 coiled-coil protein(GSE1)   |
| A 23 P29257                              | H1 histone family member 0(H1F0)   |
| A 23 P54006                              | HECT domain E3 ubiquitin protein ligase 1(HECTD1)  |
| A 23 P254507                             | HOP homeobox(HOPX)   |
| A 24 P59667                              | Janus kinase 3(JAK3)   |
| A 23 P117852                             | KIAA0101(KIAA0101)   |
| A 23 P50426                              | KN motif and ankyrin repeat domains 2(KANK2)   |
| A 23 P124892                             | KISS-1 metastasis-suppressor(KISS1)  |
| A 23 P32233                              | Kruppel like factor 4(KLF4)  |
| A 24 P307869                             | LLGL2, scribble cell polarity complex component(LLGL2)   |
| A 24 P316939                             | LRR binding F11 interacting protein 1(LRRFP1)  |
| A 23 P317184                             | LRR binding F11 interacting protein 2(LRRFP2)  |
| A 23 P78209                              | MAF bZIP transcription factor G(MAFG)  |
| A 23 P373598                             | MAF bZIP transcription factor K(MAFK)  |
| A 23 P57277                              | MAP3K7 C-terminal like(MAP3K7CL)   |
| A 23 P310                                | MARCKS like 1(MARCKSL1)  |
| A 23 P408094                             | MAX dimerization protein 1(MXD1)   |
| A 23 P143190                             | MYB proto-oncogene like 2(MYBL2)   |
| A 23 P20494                              | N-myc downstream regulated 1(NDRG1)  |
| A 23 P206661                             | NAD(P)H quinone dehydrogenase 1(NQO1)  |
| A 23 P50108                              | NDC80, kinetochore complex component(NDC80)  |
| A 23 P53856                              | NEDD4 binding protein 2 like 2(N4BP2L2)  |
| A 23 P212089                             | NFKB inhibitor zeta(NFKBIZ)  |
| A 23 P46604                              | NIPA like domain containing 3(NIPAL3)  |
| A 23 P85950                              | NLR family pyrin domain containing 1(NLRP1)  |
| A 23 P107587                             | NPC intracellular cholesterol transporter 1(NPC1)  |
| A 23 P5200                               | NPHS1, nephrin(NPHS1)  |
| A 23 P74349                              | NUF2, NDC80 kinetochore complex component(NUF2)  |
| A 23 P90419                              | PBX homeobox 4(PBX4)   |
| A 24 P186216                             | PDSS cohesin associated factor A(PDSSA)  |
| A 32 P62997                              | PDZ binding kinase(PBK)  |
| A 23 P52121                              | PDZ domain containing 1(PDZK1)   |
| A 23 P89762                              | PH domain and leucine rich repeat protein phosphatase 1(PHLPP1)  |
| A 23 P156732                             | PHD finger protein 1(PHF1)   |
| A 23 P350451                             | PR/SET domain 1(PRDM1)   |
| A 23 P374389                             | PWWP domain containing 2B(PWWP2B)  |
| A 23 P345118                             | Pin-1 proto-oncogene, serine/threonine kinase(PIM1)  |
| A 23 P301336                             | RH domain and coiled-coil containing 1 like R3HCCL1  |
| A 23 P415006                             | RAB11 family interacting protein 5(RAB11FIP5)  |
| A 24 P193295                             | RAB15, member RAS oncogene family(RAB15)   |
| A 23 P5778                               | RAB17, member RAS oncogene family(RAB17)   |
| A 23 P147025                             | RAB33A, member RAS oncogene family(RAB33A)   |
| A 23 P388168                             | RAB3B, member RAS oncogene family(RAB3B)   |
| A 24 P27295                              | RAB43, member RAS oncogene family(RAB43)   |
| A 23 P212545                             | RAB5A, member RAS oncogene family(RAB5A)   |
| A 23 P317465                             | RAB8B, member RAS oncogene family(RAB8B)   |
| A 23 P88731                              | RAD51 recombinase(RAD51)   |
| A 23 P424513                             | RAN binding protein 9(RANBP9)  |
| A 23 P45976, A 24 P36880                 | RAP1 GTPase activating protein(RAP1GAP)  |
| A 23 P26124                              | RAR related orphan receptor A(RORA)  |
| A 23 P18939                              | RAS p21 protein activator 1(RASA1)   |
| A 23 P902747                             | RAS protein activator like 2(RASAL2)   |
| A 23 P342053                             | RB binding protein 6, ubiquitin ligase(RBBP6)  |
| A 23 P169536                             | RB43A domain with coiled-coils 2(RBGC2)  |
| A 24 P282127                             | RRAD, Ras related glycolysis inhibitor and calcium channel regulator(RRAD)                                 |
| A 23 P216549                             | RUN and SH3 domain containing 2(RUSC2)   |
| A 23 P304171, A 24 P66545                | RUN and cysteine-rich domain containing beclin 1 interacting protein(RUBCN)                                |
| A 23 P133095                             | Rap guanine nucleotide exchange factor 2(RAPGEF2)  |
| A 23 P17192                              | Rap guanine nucleotide exchange factor 4(RAPGEF4)  |
| A 24 P336584, A 24 P171268               | Ras association domain family member 5(RASSF5)   |
| A 23 P53370                              | Rho family GTPase 1(RND1)  |
| A 23 P137984                             | S100 calcium binding protein A10(S100A10)  |
| A 23 P94800                              | S100 calcium binding protein A4(S100A4)  |
| A 23 P201711                             | S100 calcium binding protein A6(S100A6)  |
| A 23 P58266                              | S100 calcium binding protein P(S100P)  |
| A 23 P204550                             | SCY1 like pseudokinase 2(SCYL2)  |
| A 23 P206960                             | SEC14 like lipid binding 1(SEC14L1)  |
| A 23 P257743                             | SH2 domain containing adaptor protein B(SHB)   |
| A 24 P148750                             | SH3 domain binding protein 5(SH3BP5)   |
| A 24 P139094                             | SH3 domain containing GRB2 like 1, endophilin A2(SH3GL1)   |
| A 23 P169351                             | SH3 domain containing GRB2 like 2, endophilin A1(SH3GL2)   |
| A 23 P48998                              | SH3 domain containing GRB2 like 3, endophilin A3(SH3GL3)   |
| A 23 P374782, A 24 P289139               | SH3 domain containing kinase binding protein 1(SH3KBP1)  |
| A 24 P364838                             | SLC9A3 regulator 2(SLC9A3R2)   |
| A 23 P353316                             | SMAD specific E3 ubiquitin protein ligase 1(SMURF1)  |
| A 24 P150466                             | SPARC related modular calcium binding 1(SMOC1)   |
| A 24 P314571                             | SPC24, NDC80 kinetochore complex component(SPC24)  |
| A 23 P51085                              | SPC25, NDC80 kinetochore complex component(SPC25)  |
| A 23 P143694                             | SRY-box 10(SOX10)  |
| A 23 P85703                              | SRY-box 13(SOX13)  |
| A 23 P26847                              | SRY-box 9(SOX9)  |
| A 24 P146670                             | STE20 like kinase(SLK)   |
| A 24 P200000                             | STEAP3, metalloendopeptidase(STEAP3)   |
| A 23 P46852                              | STN1, CST complex subunit(STN1)  |
| A 23 P44244                              | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 1(SMARCA1) |
| A 23 P143173                             | Src like adaptor 2(SLA2)   |
| A 23 P164451                             | T-box 2(TBX2)  |
| A 24 P943613                             | TBC1 domain family member 1(TBC1D1)  |
| A 23 P212728                             | TBC1 domain family member 23(TBC1D23)  |
| A 23 P41487                              | TBC1 domain family member 9(TBC1D9)  |



|  |   |
|--|---|
| A.23 P362893   | TEA domain transcription factor 1(TEAD1)                            |
| A.23 P82000  | TEA domain transcription factor 3(TEAD3)                            |
| A.23 P374695   | TEK receptor tyrosine kinase(TEK)                                   |
| A.23 P305033   | TGF-beta activated kinase 1/MAP3K7 binding protein 3(TAB3)          |
| A.23 P62115  | TIMP metalloproteinase inhibitor 1(TIMPI)                           |
| A.23 P169896   | TIMP metalloproteinase inhibitor 2(TIMPI2)                          |
| A.23 P157926   | TNF alpha induced protein 3(TNFAIP3)                                |
| A.23 P49338  | TNF receptor superfamily member 12A(TNFRSF12A)                      |
| A.23 P68610  | TPX2, microtubule nucleation factor(TPX2)                           |
| A.23 P110882   | TSPY like 4(TSPYL4)   |
| A.23 P150876   | VPS37B, ESCRT-1 subunit(VPS37B)                                     |
| A.23 P4353   | WD repeat and SOCS box containing 1(WSB1)                           |
| A.23 P39024  | WD repeat domain 83(WDR83)  |
| A.23 P81392  | WW and C2 domain containing 1(WWC1)                                 |
| A.23 P342086   | WW domain containing E3 ubiquitin protein ligase 2(WWP2)            |
| A.23 P29769  | WW domain containing transcription regulator 1(WWTR1)               |
| A.23 P381017   | Williams Beuren syndrome chromosome region 27(WBSOR27)              |
| A.23 P258410   | Wnt family member 7A(WNT7A)   |
| A.23 P178945   | YOD1 deubiquitinase(YOD1)   |
| A.23 P39237  | ZFP36 ring finger protein(ZFP36)                                    |
| A.23 P137939   | actin beta(ACTB)  |
| A.23 P123408, A.23 P256205                           | actin binding LIM protein family member 3(ABLIM3)                   |
| A.23 P167239   | actin filament associated protein 1 like 1(AFAP1L1)                 |
| A.23 P158963   | actin gamma 1(ACTG1)  |
| A.23 P1102   | actin, alpha 1, skeletal muscle(ACTA1)                              |
| A.23 P8903   | actin, beta like 2(ACTBL2)  |
| A.23 P105957   | actinin alpha 1(ACTN1)  |
| A.23 P138881   | actinin alpha 3 (gene/pseudogene)(ACTN3)                            |
| A.23 P101655   | actinin alpha 4(ACTN4)  |
| A.23 P132405, A.23 P191656                           | acyl-CoA dehydrogenase family member 9(ACAD9)                       |
| A.23 P145024   | adrenoceptor beta 2(ADRB2)  |
| A.23 P436353, A.23 P256603                           | afadin, adherens junction formation factor(AFDN)                    |
| A.23 P307310   | aggregran(ACAN)   |
| A.23 P152968, A.23 P257971                           | aldo-keto reductase family 1 member C1(AKR1C1)                      |
| A.23 P78108  | aldolase, fructose-bisphosphate C(ALDOC)                            |
| A.23 P71270, A.23 P49267                             | alpha-2-lycoprotein 1, zinc-binding(AZGP1)                          |
| A.23 P31273  | amphiphysin(AMPH)   |
| A.23 P259071   | amphiphysin(AREO)   |
| A.23 P166686   | angiotensin like 2(AMOTL2)  |
| A.23 P216108   | ankyrin 1(ANK1)   |
| A.23 P125643   | ankyrin repeat and SOCS box containing 9(ASB9)                      |
| A.23 P94501  | annexin A1(ANXA1)   |
| A.23 P35399, A.23 P150632                            | annexin A11(ANXA11)   |
| A.23 P323114, A.23 P146644, A.23 P204244, A.23 P1483 | annexin A2(ANXA2)   |
| A.23 P357104   | annexin A6(ANXA6)   |
| A.23 P103617   | annexin A9(ANXA9)   |
| A.23 P345846, A.23 P377144                           | anthrax toxin receptor 2(ANTXR2)                                    |
| A.23 P119254   | anti-silencing function 1B histone chaperone(ASF1B)                 |
| A.23 P144877   | antioxidant 1 copper chaperone(ATOX1)                               |
| A.23 P203191   | apolipoprotein A1(APOA1)  |
| A.23 P136986   | apolipoprotein O like(APOOL)  |
| A.23 P366912   | apobornin 5(AOPB)   |
| A.23 P83634  | arachidonate 12-lipoxygenase, 12R type(ALOX12B)                     |
| A.23 P347880   | arachidonate lipoxygenase 3(ALOXE3)                                 |
| A.23 P1492   | arginine vasopressin induced 1(AVPI1)                               |
| A.23 P26223  | argininosuccinate lyase(ASL)  |
| A.23 P112159   | argonate 2, RISC catalytic component(AGO2)                          |
| A.23 P401014   | ariadne RBR E3 ubiquitin protein ligase 1(ARH1)                     |
| A.23 P386622   | arrestin beta 1(ARRB1)  |
| A.23 P391607   | arrestin domain containing 1(ARRDC1)                                |
| A.23 P83579  | aryl hydrocarbon receptor nuclear translocator 2(ARNT2)             |
| A.23 P18105, A.23 P295245                            | aspartate beta-hydroxylase(ASPH)                                    |
| A.23 P91701  | aspartate rich 1(DRICH1)  |
| A.23 P160537   | aurora kinase A and ninein interacting protein(AUNIP)               |
| A.23 P131866   | aurora kinase A(AURKA)  |
| A.23 P30182  | aurora kinase B(AURKB)  |
| A.23 P261820   | autophagy related 2A(ATG2A)   |
| A.23 P118815   | baculoviral IAP repeat containing 5(BIRC5)                          |
| A.23 P370682   | basic leucine zipper ATF-like transcription factor 2(BATF2)         |
| A.23 P160720   | basic leucine zipper ATF-like transcription factor 3(BATF3)         |
| A.23 P128974   | basic leucine zipper ATF-like transcription factor(BATF)            |
| A.23 P119259   | basic leucine zipper nuclear factor 1(BLZF1)                        |
| A.23 P135722   | betacellulin(BTC)   |
| A.23 P97394  | breast cancer anti-estrogen resistance 3(BCAR3)                     |
| A.23 P414712   | bromodomain and PHD finger containing 3(BRPF3)                      |
| A.23 P202683   | cadherin related family member 5(CDHR5)                             |
| A.23 P43197  | calbindin 1(CALB1)  |
| A.23 P349463   | calcineurin like EF-hand protein 2(CHP2)                            |
| A.23 P20479  | calcium binding protein 39 like(CAB39L)                             |
| A.23 P85765  | calcium voltage-gated channel subunit alpha 1 S(CACNA1S)            |
| A.23 P144458, A.23 P47988                            | calcium/calmodulin dependent protein kinase II delta(CAMK2D)        |
| A.23 P84428, A.23 P114574                            | calyculin binding protein(CALYBP)                                   |
| A.23 P326170   | calmodulin 1(CALM1)   |
| A.23 P213518, A.23 P434352                           | calpastatin(CAST)   |
| A.23 P125233   | calponin 1(CNN1)  |
| A.23 P382319   | carcinoembryonic antigen related cell adhesion molecule 1(CEACAM1)  |
| A.23 P218442   | carcinoembryonic antigen related cell adhesion molecule 6(CEACAM6)  |
| A.23 P138760   | cardiotrophin-like cytokine factor 1(CLCF1)                         |
| A.23 P82324  | cardiotrophin-like cytokine factor 1(CARD11)                        |
| A.23 P14774  | cathepsin H(CTSH)   |
| A.23 P94533  | cathepsin L(CTSL)   |
| A.23 P146456   | cathepsin V(CTSV)   |
| A.23 P26276  | cation channel sperm associated 1(CATSPER1)                         |
| A.23 P149200   | cell division cycle 20(CDC20)                                       |
| A.23 P913221   | cell division cycle 23(CDC23)                                       |
| A.23 P164999   | cell division cycle 34(CDC34)                                       |
| A.23 P104651   | cell division cycle associated 5(CDCA5)                             |
| A.23 P375  | cell division cycle associated 8(CDCA8)                             |
| A.23 P253524   | centromere protein E(CENPE)   |
| A.23 P401  | centromere protein F(CENPF)   |
| A.23 P163580   | centromere protein T(CENPT)   |
| A.23 P56709  | charged multivesicular body protein 3(CHMP3)                        |
| A.23 P10156  | charged multivesicular body protein 6(CHMP6)                        |
| A.23 P259189, A.23 P135499                           | chloride intracellular channel 4(CLIC4)                             |
| A.23 P311895, A.23 P416774                           | chloride intracellular channel 5(CLIC5)                             |
| A.23 P69293  | choline dehydrogenase(CHDH)   |
| A.23 P149892   | chondroitin sulfate N-acetylgalactosaminyltransferase 2(CSGALNACT2) |
| A.23 P134078   | chromodomain Y-like(CDYL)   |
| A.23 P897  | chromosome 1 open reading frame 118(Corf118)                        |
| A.23 P160297   | chromosome 17 open reading frame 94(Corf94)                         |
| A.23 P172562   | chromosome 17 open reading frame 87(Corf87)                         |
| A.23 P29975  | chromosome 4 open reading frame 19(Corf19)                          |
| A.23 P386268   | chromosome 4 open reading frame 26(Corf26)                          |
| A.23 P354297   | chromosome transmission fidelity factor 18(CHTF18)                  |
| A.23 P34852  | chymotrypsin C(CTRC)  |
| A.23 P410717   | circadian associated repressor of transcription(CIART)              |
| A.23 P420551   | citron rho-interacting serine/threonine kinase(CIT)                 |
| A.23 P164284   | claudin 7(CLDN7)  |
| A.23 P215913   | clusterin(CLU)  |
| A.23 P416131   | coactosin like F-actin binding protein 1(COGL1)                     |
| A.23 P373152   | cofilin 2(COFL2)  |
| A.23 P910733   | coiled-coil domain containing 50(COCC50)                            |
| A.23 P25544  | collagen type VIII alpha 1 chain(COL8A1)                            |
| A.23 P89030  | collagen type XIII alpha 1 chain(COL13A1)                           |
| A.23 P1331   | collagen type XIII alpha 1 chain(COL13A1)                           |
| A.23 P133408   | colony stimulating factor 2(CSF2)                                   |
| A.23 P19663  | connective tissue growth factor(CTGF)                               |
| A.23 P106761   | coronin 1A(CORO1A)  |
| A.23 P81947  | coronin 1C(CORO1C)  |
| A.23 P367496   | corticotropin releasing hormone receptor 1(CRH1)                    |
| A.23 P206776   | crystallin alpha B(CRYAB)   |

|  |  |
|--|--|
| A 23 P58321                            | cyclin A2(CCNA2)   |
| A 23 P122197                           | cyclin B1(CCNB1)   |
| A 23 P65757                            | cyclin B2(CCNB2)   |
| A 23 P145397                           | cyclin C(CCNC)   |
| A 23 P209200                           | cyclin E1(CCNE1)   |
| A 24 P374720                           | cyclin Y like 1(CCNLY1)  |
| A 23 P138507                           | cyclin dependent kinase 1(CDK1)  |
| A 23 P133385                           | cyclin dependent kinase 7(CDK7)  |
| A 23 P428129                           | cyclin dependent kinase inhibitor 1C(CDKN1C)                           |
| A 23 P48669                            | cyclin dependent kinase inhibitor 3(CDKN3)                             |
| A 23 P126103                           | cystathionine gamma-lyase(CTH)   |
| A 23 P166306                           | cystathionine-beta-synthase(CBS)                                       |
| A 23 P44724                            | cysteine and glycine rich protein 2(CSRP2)                             |
| A 23 P121011                           | cysteine and serine rich nuclear protein 1(CSRNP1)                     |
| A 23 P110345                           | cysteine rich hydrophobic domain 2(CHIC2)                              |
| A 23 P34597                            | cytidine deaminase(CDA)  |
| A 23 P163402                           | cytochrome P450 family 1 subfamily A member 1(CYP1A1)                  |
| A 23 P52101                            | cytochrome b5 reductase 1(CYB5R1)                                      |
| A 23 P251937                           | cytoplasmic polyadenylation element binding protein 4(CPEB4)           |
| A 23 P59637                            | dedicator of cytokinesis 4(DOCK4)                                      |
| A 23 P350245                           | dedicator of cytokinesis 5(DOCK5)                                      |
| A 23 P157628                           | defensin beta 4A(DEFB4A)   |
| A 23 P66599                            | deleted in malignant brain tumors 1(DMBT1)                             |
| A 23 P10385                            | denticleless E3 ubiquitin protein ligase homolog(DTL)                  |
| A 23 P24129                            | dickkopf WNT signaling pathway inhibitor 1(DKK1)                       |
| A 24 P38347                            | dihydropyrimidinase like 2(DPYSL2)                                     |
| A 23 P91829, A 24 P137434, A 24 P51061 | discoidin, CUB and LCCL domain containing 2(DCBLD2)                    |
| A 23 P416142                           | discs large MAGUK scaffold protein 1(DLGI)                             |
| A 23 P54116                            | dishevelled associated activator of morphogenesis 1(DAAM1)             |
| A 23 P347432, A 23 P201342             | dishevelled segment polarity protein 1(DVLI)                           |
| A 23 P5601                             | docking protein 1(DOK1)  |
| A 23 P500328                           | doublecortin(DCX)  |
| A 24 P43681                            | drebrin like(DBNL)   |
| A 23 P255444                           | dual adaptor of phosphotyrosine and 3-phosphoinositides 1(DAPP1)       |
| A 23 P110712                           | dual specificity phosphatase 1(DUSP1)                                  |
| A 23 P207537                           | dual specificity phosphatase 14(DUSP14)                                |
| A 23 P150918                           | dual specificity phosphatase 5(DUSP5)                                  |
| A 23 P407074                           | dynamin 2(DNM2)  |
| A 23 P39931                            | dyxferlin(DYSP)  |
| A 23 P156880, A 32 P192376             | ectonucleotide pyrophosphatase/phosphodiesterase 1(ENPP1)              |
| A 24 P186943                           | elastin(ELN)   |
| A 23 P315122                           | empty spiracles homeobox 1(EMX1)                                       |
| A 23 P83328                            | endoglin(ENG)  |
| A 23 P83266                            | endonuclease G(ENDOG)  |
| A 23 P106145                           | endoplasmic reticulum oxidoreductase 1 alpha(ERO1A)                    |
| A 23 P214821                           | endothelin 1(EDN1)   |
| A 24 P236091                           | enolase 2(ENO2)  |
| A 23 P41344                            | epiregulin(EREG)   |
| A 23 P91081                            | epithelial cell adhesion molecule(EPCAM)                               |
| A 23 P44684                            | epithelial cell transforming 2(ECT2)                                   |
| A 23 P74688                            | epithelial membrane protein 1(EMP1)                                    |
| A 23 P119362                           | epithelial membrane protein 3(EMP3)                                    |
| A 23 P130627                           | epsin 3(EPH3)  |
| A 23 P349416                           | erb-b2 receptor tyrosine kinase 3(ERBB3)                               |
| A 23 P30175                            | erb2 interacting protein(ERBIN)  |
| A 23 P351                              | erythrocyte membrane protein band 4.1(EPB41)                           |
| A 23 P367899                           | erythropoietin receptor(EPOR)  |
| A 24 P697685                           | extended synaptotagmin 3(ESYT3)  |
| A 23 P160559                           | extracellular matrix protein 1(ECM1)                                   |
| A 23 P19590                            | ezrin(EZR)   |
| A 23 P120973                           | family with sequence similarity 118 member A(FAM118A)                  |
| A 23 P98953                            | family with sequence similarity 214 member A(FAM214A)                  |
| A 24 P346762                           | family with sequence similarity 214 member B(FAM214B)                  |
| A 24 P941359, A 23 P358394             | family with sequence similarity 65 member B(FAM65B)                    |
| A 23 P323751                           | family with sequence similarity 83 member D(FAM83D)                    |
| A 24 P329487                           | family with sequence similarity 84 member B(FAM84B)                    |
| A 23 P151970                           | ferritin homolog B(FEM1B)  |
| A 23 P0504, A 32 P155247               | ferritin light chain(FTL)  |
| A 23 P213336                           | fibroblast growth factor 1(FGF1)                                       |
| A 23 P302681                           | figetin like 1(FIGNL1)   |
| A 32 P387648, A 24 P51322              | filaggrin(FLG)   |
| A 23 P211878                           | filamin B(FLNB)  |
| A 24 P77968                            | filamin C(FLNC)  |
| A 23 P414308                           | folliculin(FLCN)   |
| A 23 P212696                           | folistatin like 1(FSTL1)   |
| A 23 P110531                           | folistatin(FST)  |
| A 23 P151150                           | forkhead box M1(FOXM1)   |
| A 32 P140898                           | forkhead box N2(FOXN2)   |
| A 32 P102062                           | forkhead box O3(FOXO3)   |
| A 23 P257111                           | fructose-bisphosphatase 1(FBP1)  |
| A 23 P45475                            | galactosidase alpha(GLA)   |
| A 23 P374844                           | galanin and GMAP propeptide(GAL)                                       |
| A 23 P128919                           | galectin 3(GALS3)  |
| A 23 P1083                             | gap junction protein alpha 4(GJA4)                                     |
| A 23 P139864                           | germ cell associated 1(GSG1)   |
| A 23 P88873                            | gigaxonin(GAN)   |
| A 32 P37780                            | glial cell derived neurotrophic factor(GDNF)                           |
| A 23 P216489                           | glucosamine (UDP-N-acetyl)-2-epimerase/N-acetylmannosamine kinase(GNE) |
| A 23 P201035                           | glucosylceramidase beta(GBA)   |
| A 23 P374689                           | glutamate decarboxylase 1(GAD1)  |
| A 23 P303072                           | glutamate ionotropic receptor AMPA type subunit 1(GRIA1)               |
| A 24 P304051                           | glutathione S-transferase omega 1(GSTO1)                               |
| A 23 P133474                           | glutathione peroxidase 3(GPX3)   |
| A 23 P42386                            | glycoprotein hormones, alpha polypeptide(CGA)                          |
| A 23 P148512                           | golgi membrane protein 1(GOLM1)  |
| A 23 P71440, A 24 P98277               | golgin A7(GOLGA7)  |
| A 23 P52067                            | grainyhead like transcription factor 3(GRHL3)                          |
| A 23 P23221                            | growth arrest and DNA damage inducible alpha(GADD45A)                  |
| A 24 P239606                           | growth arrest and DNA damage inducible beta(GADD45B)                   |
| A 24 P82466                            | growth arrest specific 7(GAS7)   |
| A 23 P122863                           | growth factor receptor bound protein 10(GRB10)                         |
| A 23 P163992                           | growth factor receptor bound protein 7(GRB7)                           |
| A 23 P162874, A 32 P199252             | heat shock protein 90 alpha family class A member 1(HSP90AA1)          |
| A 23 P111132                           | heat shock protein family A (Hsp70) member 1A(HSPA1A)                  |
| A 23 P114903                           | heat shock protein family A (Hsp70) member 6(HSPA6)                    |
| A 23 P161727                           | heat shock protein family B (small) member 2(HSPB2)                    |
| A 23 P162579                           | heat shock protein family B (small) member 8(HSPB8)                    |
| A 23 P167129                           | hedghog interacting protein(HHIP)                                      |
| A 23 P153372                           | hematopoietic SH2 domain containing(HSH2D)                             |
| A 23 P73429                            | hematopoietic cell-specific Lym substrate 1(HCLS1)                     |
| A 23 P19891                            | heme binding protein 2(HBP2)   |
| A 23 P120883                           | heme oxygenase 1(HMOX1)  |
| A 23 P100501                           | heme oxygenase 2(HMOX2)  |
| A 24 P75190                            | hemoglobin subunit delta(HBD)  |
| A 32 P175739                           | hexokinase 2(HK2)  |
| A 23 P95930                            | high mobility group AT-hook 2(HMGAT2)                                  |
| A 23 P5831                             | hippocalcin like 1(HPCAL1)   |
| A 23 P122443                           | histone cluster 1 H1 family member c(H1ST1H1C)                         |
| A 23 P7876                             | histone cluster 1 H1 family member e(H1ST1H1E)                         |
| A 23 P404162                           | histone deacetylase 9(HDAC9)   |
| A 23 P22129                            | huntingtin associated protein 1(HAP1)                                  |
| A 24 P229164, A 23 P398294             | huntingtin interacting protein 1 related(HIP1R)                        |
| A 23 P70007                            | hyaluronan mediated motility receptor(HMMR)                            |
| A 23 P200976, A 23 P160582             | hydroxybutyrate isomerase (putative)(HYI)                              |
| A 23 P78762                            | hydroxyteroid 17-beta dehydrogenase 14(HSD17B14)                       |
| A 23 P88330                            | immediate early response 5(IERS)                                       |
| A 23 P393713                           | immunoglobulin mu binding protein 2(IQMBP2)                            |
| A 23 P19517                            | inositol 1,4,5-trisphosphate receptor type 3(ITPR3)                    |
| A 23 P393531                           | inositol polyphosphate-4-phosphatase type 1A(INPP4A)                   |
| A 23 P85640                            | inositol polyphosphate-5-phosphatase B(INPP5B)                         |
| A 23 P5131                             | inositol-3-phosphate synthase 1(ISYNA1)                                |

|   |   |
|---|---|
| A 24 P944458                            | insulin induced gene 2(INSIG2)  |
| A 23 P250156                            | insulin like growth factor 2 mRNA binding protein 2(IGF2BP2)          |
| A 23 P150609                            | insulin like growth factor 2(IGF2)                                    |
| A 23 P353035                            | insulin like growth factor binding protein 7(IGFBP7)                  |
| A 23 P171074                            | integral membrane protein 2A(TM2A)                                    |
| A 32 P178800                            | integrin subunit alpha 2(ITGA2)                                       |
| A 23 P154507                            | integrin subunit beta 1 binding protein 1(ITGB1BP1)                   |
| A 23 P29373                             | integrin subunit beta 2(ITGB2)  |
| A 23 P153320                            | intercellular adhesion molecule 1(ICAM1)                              |
| A 23 P164691                            | intercellular adhesion molecule 3(ICAM3)                              |
| A 23 P119143                            | intercellular adhesion molecule 5(ICAM5)                              |
| A 24 P19677                             | interferon lambda receptor 1(IFNLR1)                                  |
| A 23 P748                               | interferon regulatory factor 6(IRF6)                                  |
| A 23 P72096                             | interleukin 1 alpha(IL1A)   |
| A 23 P51126                             | interleukin 1 receptor like 1(IL1RL1)                                 |
| A 24 P63019                             | interleukin 1 receptor type 2(IL1R2)                                  |
| A 23 P126735                            | interleukin 10(IL10)  |
| A 23 P104798                            | interleukin 18(IL18)  |
| A 24 P203000                            | interleukin 2 receptor subunit beta(IL2RB)                            |
| A 23 P62607                             | interleukin 22 receptor subunit alpha 1(IL22RA1)                      |
| A 23 P76078                             | interleukin 23 subunit alpha(IL23A)                                   |
| A 23 P215146                            | interleukin 32(IL32)  |
| A 24 P68783                             | interleukin 36 receptor antagonist(IL36RN)                            |
| A 23 P434347                            | intersectin 2(ITSN2)  |
| A 23 P353524                            | involucrin(VL)  |
| A 24 P226278                            | jade family PHD finger 2(JADE2)                                       |
| A 23 P427217                            | jumonji domain containing 1C(JMJD1C)                                  |
| A 23 P403424                            | jumonji domain containing 7(JMJD7)                                    |
| A 32 P176550                            | junction mediating and regulatory protein, p53 cofactor(JMY)          |
| A 23 P68423, A 23 P394395               | junctophilin 2(JPH2)  |
| A 24 P333697, A 24 P416645              | kallikrein related peptidase 13(KLK13)                                |
| A 24 P376047                            | kallikrein related peptidase 4(KLK4)                                  |
| A 23 P153480                            | kallikrein related peptidase 5(KLK5)                                  |
| A 24 P236935                            | kallikrein related peptidase 6(KLK6)                                  |
| A 23 P369343                            | kallikrein related peptidase 8(KLK8)                                  |
| A 24 P15043                             | kelch like family member 18(KLHL18)                                   |
| A 23 P215517                            | kelch like family member 7(KLHL7)                                     |
| A 23 P27133                             | keratin 15(KRT15)   |
| A 23 P66798                             | keratin 19(KRT19)   |
| A 23 P107465                            | keratin 31(KRT31)   |
| A 23 P89665                             | keratin 33B(KRT33B)   |
| A 23 P2674                              | keratin 4(KRT4)   |
| A 23 P76249                             | keratin 6B(KRT6B)   |
| A 24 P331704                            | keratin 80(KRT80)   |
| A 24 P410408                            | keratin 83(KRT83)   |
| A 23 P363769                            | keratin 86(KRT86)   |
| A 23 P107454                            | keratin associated protein 3-1(KRTAP3-1)                              |
| A 23 P104741                            | kin of IRRE like 3 (Drosophila)(KIRREL3)                              |
| A 24 P649624, A 24 P145066              | kinesin family member 18(KIF18)                                       |
| A 23 P34788                             | kinesin family member 20(KIF20)                                       |
| A 23 P54576                             | kinesin family member C3(KIFC3)                                       |
| A 23 P315206                            | kyurenine aminotransferase 1(KYAT1)                                   |
| A 23 P166848                            | lactoferrin(LTF)  |
| A 24 P70002                             | large tumor suppressor kinase 2(LATS2)                                |
| A 23 P405295                            | late cornified envelope 3C(LCE3C)                                     |
| A 23 P61487                             | leucine rich repeat containing 20(LRRC20)                             |
| A 23 P250274                            | leucine rich repeat containing 8 family member A(LRRC8A)              |
| A 24 P348203                            | leucine rich repeat containing 8 family member E(LRRC8E)              |
| A 24 P380679                            | leucine rich single-pass membrane protein 1(LSMEM1)                   |
| A 23 P149852                            | leucine zipper tumor suppressor 2(LZTS2)                              |
| A 24 P122137, A 24 P233488              | leukemia inhibitory factor(LIF)                                       |
| A 32 P70158                             | leukocyte immunoglobulin like receptor B3(LILRB3)                     |
| A 24 P65722                             | leukocyte immunoglobulin like receptor B4(LILRB4)                     |
| A 23 P213137                            | ligand of numb-protein X 1(LNX1)                                      |
| A 23 P259621                            | linker for activation of T-cells family member 2(LAT2)                |
| A 24 P323084                            | long intergenic non-protein coding RNA 462(LINC00462)                 |
| A 23 P302995                            | long intergenic non-protein coding RNA 518(LINC00518)                 |
| A 23 P34432                             | lonsin(LON)   |
| A 32 P159851                            | lysine acetyltransferase 2B(KAT2B)                                    |
| A 24 P66337                             | lysocardiolipin acyltransferase 1(LCLAT1)                             |
| A 24 P88763                             | lysyl oxidase like 3(LOXL3)   |
| A 24 P80204                             | mal, T-cell differentiation protein like(MALL)                        |
| A 23 P17134                             | mal, T-cell differentiation protein(MAL)                              |
| A 24 P116535                            | matrix metalloproteinase 15(MMP15)                                    |
| A 23 P426663, A 23 P73345               | melanogenesis associated transcription factor(MITF)                   |
| A 24 P260101                            | membrane metalloendopeptidase(MME)                                    |
| A 23 P107173                            | mesenchyme homeobox 1(MEOX1)  |
| A 23 P54840                             | metallothionein 1A(MT1A)  |
| A 23 P15174                             | metallothionein 1F(MT1F)  |
| A 23 P106944                            | metallothionein 2A(MT2A)  |
| A 24 P376322                            | methyl-Ca2 binding domain protein 1(MBD1)                             |
| A 32 P220715, A 23 P77630               | microtubule associated protein 1 light chain 3 beta(MAP1LC3B)         |
| A 23 P163455                            | microtubule associated protein 1A(MAP1A)                              |
| A 23 P418015                            | microtubule associated protein RP/EB family member 2(MAPRE2)          |
| A 23 P255331                            | mitochondria localized glutamic acid rich protein(MGARP)              |
| A 23 P46907                             | mitochondrial calcium uptake 1(MICU1)                                 |
| A 23 P501372                            | mitochondrial elongation factor 2(MIEF2)                              |
| A 23 P253752                            | mitochondrial fission regulator 2(MTFR2)                              |
| A 23 P356152                            | mitogen-activated protein kinase 8(MAPK8)                             |
| A 24 P296698, A 23 P118427              | mitogen-activated protein kinase kinase 3(MAP2K3)                     |
| A 23 P23947                             | mitogen-activated protein kinase kinase kinase 8(MAP3K8)              |
| A 24 P287075                            | mitogen-activated protein kinase kinase kinase kinase 2(MAP4K2)       |
| A 23 P314584                            | mitogen-activated protein kinase-activated protein kinase 3(MAPKAPK3) |
| A 23 P137856                            | mucin 1, cell surface associated(MUC1)                                |
| A 23 P5211                              | mucin 16, cell surface associated(MUC16)                              |
| A 24 P770033                            | myelin protein zero like 3(MPZL3)                                     |
| A 23 P160438                            | myogenin(MYOG)  |
| A 23 P104438                            | myopalladin(MYPN)   |
| A 23 P4572                              | myosin light chain 12A(MYL12A)  |
| A 23 P162547                            | myosin light chain 2(MYL2)  |
| A 24 P56130                             | myosin light chain 6(MYL6)  |
| A 23 P59738                             | myosin light chain 7(MYL7)  |
| A 23 P15348                             | myosin phosphatase Rho interacting protein(MPRIP)                     |
| A 23 P62133                             | myotubularin 1(MTM1)  |
| A 23 P23006                             | nardilysin convertase(NRDC)   |
| A 23 P62752                             | natriuretic peptide B(NPPB)   |
| A 23 P352870                            | nectin cell adhesion molecule 2(NECTIN2)                              |
| A 23 P423331                            | netrin G2(INTNG2)   |
| A 24 P168726                            | neurorubin G2(NF2)  |
| A 23 P218597                            | neuronal PAS domain protein 2(NPAS2)                                  |
| A 23 P138184                            | neutrophil cytosolic factor 2(NCF2)                                   |
| A 24 P925737, A 23 P74309, A 23 P103511 | nitric oxide synthase 1 adaptor protein(NOS1AP)                       |
| A 23 P359647                            | nuclear factor of activated T-cells 5(NFAT5)                          |
| A 23 P47682                             | nuclear receptor interacting protein 3(NRIP3)                         |
| A 24 P250227                            | nuclear receptor subfamily 1 group D member 1(NR1D1)                  |
| A 24 P943472                            | nuclear receptor subfamily 1 group D member 2(NR1D2)                  |
| A 23 P398566                            | nuclear receptor subfamily 4 group A member 3(NR4A3)                  |
| A 23 P216915                            | nuclear receptor subfamily 5 group A member 1(NR5A1)                  |
| A 24 P273157                            | obscurin, cytoskeletal calmodulin and titin-interacting RhoGEF(OBSCN) |
| A 23 P100344                            | origin recognition complex subunit 6(ORC6)                            |
| A 23 P77415                             | oxidative stress induced growth inhibitor 1(OSGIN1)                   |
| A 23 P418413                            | oxidative stress responsive 1(OSXR1)                                  |
| A 23 P321935, A 23 P57474               | oxysterol binding protein 2(OSBP2)                                    |
| A 23 P10442                             | oxysterol binding protein like 1A(OSBPL1A)                            |
| A 32 P205637                            | par-6 family cell polarity regulator beta(PARD6B)                     |
| A 23 P104692                            | pellino E3 ubiquitin protein ligase family member 3(PEL13)            |
| A 23 P202104                            | peptidylprolyl isomerase F(PPIF)                                      |
| A 23 P100711                            | peripheral myelin protein 22(PMP22)                                   |
| A 23 P106906                            | periplakin(PPL)   |
| A 23 P214681, A 24 P252130              | peroxisome proliferator activated receptor delta(PPARD)               |
| A 23 P111240                            | phosphatase and actin regulator 2(PHACTR2)                            |

|                          |  |
|--------------------------|--|
| A24 P244162              | phosphatidylinositol 4-kinase type 2 alpha(P14K2A)                   |
| A23 P203658              | phosphatidylinositol binding clathrin assembly protein(PICALM)       |
| A23 P401106              | phosphodiesterase 2A(PDE2A)  |
| A23 P128817              | phosphoenolpyruvate carboxykinase 2_mitochondrial(PCK2)              |
| A23 P116414              | phospholipase A2_group XVI(PLA2G16)                                  |
| A24 P410952              | phosphoprotein enriched in astrocytes 15(PEA15)                      |
| A23 P331670              | phosphorylase, glycogen; brain(PYGB)                                 |
| A23 P164258              | pipecolic acid and sarcosine oxidase(PIPOX)                          |
| A23 P232396              | plakophilin 1(PKP1)  |
| A23 P16469               | plasminogen activator, urokinase receptor(PLAUR)                     |
| A24 P339944              | platelet derived growth factor subunit B(PDGFB)                      |
| A24 P20200               | pleckstrin homology domain containing B2(PLEKHB2)                    |
| A23 P23616               | pleckstrin homology domain containing N1(PLEKHN1)                    |
| A24 P915692              | pleckstrin homology like domain family A member 1(PHLDA1)            |
| A23 P215060              | podocalyxin like(PODXL)  |
| A24 P65616, A23 P141894  | poliovirus receptor(PVR)   |
| A23 P51646               | polo like kinase 3(PLK3)   |
| A23 P155969              | polo like kinase 4(PLK4)   |
| A23 P500353              | potassium calcium-activated channel subfamily N member 2(KCNN2)      |
| A23 P67529               | potassium calcium-activated channel subfamily N member 4(KCNN4)      |
| A23 P321846              | potassium voltage-gated channel modifier subfamily S member 1(KCNS1) |
| A23 P20697               | pregnancy specific beta-1-glycoprotein 1(PSG1)                       |
| A23 P103398              | presenilin 2(PSEN2)  |
| A23 P109143              | prion protein(PRNP)  |
| A23 P155868              | progesterone receptor membrane component 2(PGRMC2)                   |
| A24 P389608              | proline and serine rich 2(PROSER2)                                   |
| A23 P257003              | proprotein convertase subtilisin/kexin type 5(PCSK5)                 |
| A23 P148047              | prostaglandin E receptor 4(PTGER4)                                   |
| A24 P250922              | prostaglandin-endoperoxide synthase 2(PTGS2)                         |
| A23 P76851, A23 P298420  | protein arginine methyltransferase 5(PRMT5)                          |
| A23 P258088              | protein kinase C and casein kinase substrate in neurons 1(PACSN1)    |
| A23 P80377               | protein kinase C and casein kinase substrate in neurons 2(PACSN2)    |
| A23 P67271               | protein kinase N1(PKN1)  |
| A23 P90172               | protein phosphatase 1 regulatory subunit 15A(PPP1R15A)               |
| A23 P122041              | protein phosphatase 2 catalytic subunit alpha(PPP2CA)                |
| A23 P35796               | protein phosphatase 2 regulatory subunit B beta(PPP2R5B)             |
| A23 P13620               | protein phosphatase 2 regulatory subunit Bbeta(PPP2R2B)              |
| A23 P425332              | protein phosphatase 4 regulatory subunit 4(PPP4R4)                   |
| A24 P213763, A23 P57413  | protein phosphatase, Mg2+/Mn2+-dependent 1F(PPM1F)                   |
| A23 P206059              | protein regulator of cytokinesis 1(PRC1)                             |
| A23 P56978               | protein tyrosine kinase 6(PTK6)                                      |
| A24 P409519              | protein tyrosine phosphatase, non-receptor type 5(PTPN5)             |
| A23 P101642              | protein tyrosine phosphatase, receptor type H(PTPRH)                 |
| A23 P64611               | pyrimidineric receptor P2Y6(P2RY6)                                   |
| A23 P29153               | radial spoke head 14 homolog(RSPH14)                                 |
| A23 P93383               | ral guanine nucleotide dissociation stimulator like 2(RGL2)          |
| A24 P82032               | ras homolog family member J(RHOJ)                                    |
| A23 P252106              | receptor interacting serine/threonine kinase 2(RIRPK2)               |
| A23 P320578              | regulator of G-protein signaling 16(RGS16)                           |
| A23 P114947              | regulator of G-protein signaling 2(RGS2)                             |
| A23 P73097               | regulator of G-protein signaling 20(RGS20)                           |
| A23 P218646              | regulator of telomere elongation helicase 1(RTEL1)                   |
| A23 P9289                | regulatory factor X3(RFX3)   |
| A23 P372308              | repulsive guidance molecule family member a(RGMA)                    |
| A23 P255215              | retinitis pigmentosa 9 (autosomal dominant)(RP9)                     |
| A23 P207842              | retinoic acid receptor alpha(RARA)                                   |
| A23 P134237              | retinoic acid receptor responder 2(RARRES2)                          |
| A24 P165423              | retinol binding protein 7(RBP7)                                      |
| A23 P29303               | ribosomal RNA processing 7 homolog A(RRP7A)                          |
| A23 P399255              | ring finger protein 182(RNF182)                                      |
| A23 P132121              | salt inducible kinase 1(SIK1)  |
| A23 P66637               | sarcoglycan alpha(SGCA)  |
| A23 P215900              | scavenger receptor class A member 3(SCARA3)                          |
| A23 P900000              | scellin(SCEL)  |
| A23 P118571              | sclerostin(SOST)   |
| A23 P62091               | secretogranin V(SCG5)  |
| A24 P190472              | secretory leukocyte peptidase inhibitor(SLPI)                        |
| A23 P64860               | selectin P ligand(SLEPLG)  |
| A23 P127068              | semaphorin 4G(SEMA4G)  |
| A23 P106389              | semaphorin 7A (John Milton Hazen blood group)(SEMA7A)                |
| A23 P503127, A23 P211572 | septin 3(SEPT3)  |
| A24 P73389               | serine/threonine kinase 24(STK24)                                    |
| A23 P74229               | serine/threonine kinase 40(STK40)                                    |
| A23 P13822               | serine/threonine/tyrosine kinase 1(STYK1)                            |
| A24 P147461              | serpin family B member 8(SERPINB8)                                   |
| A24 P295010              | serpin family B member 9(SERPINB9)                                   |
| A23 P127460              | signal-induced proliferation-associated 1(SIPA1)                     |
| A24 P332647              | slingshot protein phosphatase 1(SSHT1)                               |
| A23 P144348              | slit guidance ligand 2(SLIT2)  |
| A23 P62709               | small proline rich protein 3(SPRR3)                                  |
| A23 P63098               | sodium channel epithelial 1 beta subunit(SCNN1B)                     |
| A23 P46412               | sodium channel epithelial 1 delta subunit(SCNN1D)                    |
| A23 P206626              | sodium channel epithelial 1 gamma subunit(SCNN1G)                    |
| A24 P128233              | sodium voltage-gated channel alpha subunit 5(SCN5A)                  |
| A23 P158725              | solute carrier family 16 member 3(SLC16A3)                           |
| A24 P350228              | solute carrier family 22 member 23(SLC22A23)                         |
| A23 P224522              | solute carrier family 25 member 23(SLC25A23)                         |
| A24 P206047              | solute carrier family 25 member 4(SLC25A4)                           |
| A23 P34460               | solute carrier family 35 member A3(SLC35A3)                          |
| A24 P385190              | solute carrier family 4 member 1 (Diego blood group)(SLC4A1)         |
| A23 P17826               | solute carrier family 5 member 1(SLC5A1)                             |
| A23 P76386               | solute carrier family 6 member 12(SLC6A12)                           |
| A23 P152995              | solute carrier family 6 member 4(SLC6A4)                             |
| A24 P350683              | solute carrier family 9 member A11(SLC9A1)                           |
| A24 P317907              | sorbin and SH3 domain containing 1(SORBS1)                           |
| A23 P414252              | sorting nexin 6(SNX6)  |
| A24 P179044              | sorting nexin 9(SNX9)  |
| A23 P109072              | spalt like transcription factor 4(SALL4)                             |
| A24 P272088              | spectrin beta, erythrocytic(SPTB)                                    |
| A23 P411851              | spectrin repeat containing nuclear envelope family member 3(SYNE3)   |
| A24 P127564              | sperm acrosome associated 6(SPACA6)                                  |
| A23 P203488              | sphingomyelin phosphodiesterase 1(SMPD1)                             |
| A23 P41948               | spindle apparatus coiled-coil protein 1(SPD1)                        |
| A23 P200096              | splA/ryanodine receptor domain and SOCS box containing 1(SPSB1)      |
| A23 P128698              | sprouty RTK signaling antagonist 2(SPRY2)                            |
| A24 P269062              | sprouty RTK signaling antagonist 4(SPRY4)                            |
| A23 P254079              | starch binding domain 1(STBD1)                                       |
| A23 P318300, A23 P366394 | sterile alpha motif and leucine zipper containing kinase AZK(ZAK)    |
| A24 P363523              | sterile alpha motif domain containing 4A(SAMD4A)                     |
| A23 P165521              | striatin(STRN)   |
| A23 P107981              | sulfotransferase family 2B member 1(SULT2B1)                         |
| A23 P254741              | superoxide dismutase 3, extracellular(SOD3)                          |
| A23 P207981              | suppressor of cytokine signaling 6(SOCS6)                            |
| A23 P89939               | synapse associated protein 1(SYAP1)                                  |
| A23 P53193               | synaptotagmin like 2(SYTL2)  |
| A24 P122337              | synaptotagmin like 4(SYTL4)  |
| A23 P131899              | syndecan binding protein 2(SDCBP2)                                   |
| A23 P168556              | syntaxin 1A(STX1A)   |
| A23 P139143              | syntaxin 3(STX3)   |
| A24 P201171              | syntaxin binding protein 1(STXBP1)                                   |
| A23 P251293              | synuclein gamma(SNCG)  |
| A23 P337155              | target of myb1 like 2 membrane trafficking protein(TOM1L2)           |
| A23 P78538               | testis expressed 37(TEX37)   |
| A23 P432305              | tetraspanin 1(TSPAN1)  |
| A23 P160167              | tetraspanin 1(TSPAN1)  |
| A23 P50008               | tetratricopeptide repeat domain 19(TTC19)                            |
| A23 P129128              | threonyl-tRNA synthetase like 2(TARS2)                               |
| A24 P142118              | thrombospondin 1(THBS1)  |
| A23 P90357               | thromboxane A2 receptor(TBXA2R)                                      |
| A23 P107421              | thymidine kinase 1(TK1)  |
| A24 P85775               | thymocyte selection associated family member 2(THES2)                |

|                          |   |
|--------------------------|---|
| A24 P374516              | thymosin beta 4, X-linked(TMSB4X)   |
| A24 P201153, A23 P9293   | tight junction protein 2(TJP2)  |
| A23 P108157              | tight junction protein 3(TJP3)  |
| A23 P10873               | toll like receptor 1(TLR1)  |
| A23 P90311, A23 P376096  | toll like receptor adaptor molecule 1(TICAM1)                                   |
| A23 P305507              | topoisomerase (DNA) II(TOP1)  |
| A23 P118534              | topoisomerase (DNA) II alpha(TOP2A)   |
| A23 P7582                | transcription factor 7(T-cell specific, HMG-box)(TCF7)                          |
| A23 P164179              | transducer of ERBB2, 1(TOBI)  |
| A24 P98249               | transforming acidic coiled-coil containing protein 1(TACC1)                     |
| A23 P37291               | transforming growth factor alpha(TGFA)  |
| A23 P87011, A23 P87013   | transgelin(TAGLN)   |
| A23 P65618               | transglutaminase 1(TGM1)  |
| A32 P86763, A24 P923251  | transglutaminase 2(TGM2)  |
| A24 P410463              | transient receptor potential cation channel subfamily M member 6(TRPM6)         |
| A24 P13381               | transient receptor potential cation channel subfamily V member 4(TRPV4)         |
| A24 P400573              | transmembrane channel like 8(TMC8)  |
| A23 P211493              | transmembrane protease, serine 6(TMPRSS6)                                       |
| A24 P381975              | transmembrane protein 231(TMEMP231)   |
| A24 P243396              | treacle, ribosome biogenesis factor 1(TCOF1)                                    |
| A23 P425880              | trio Rho guanine nucleotide exchange factor(TRIO)                               |
| A23 P422667              | tripartite motif containing 1(TTRIM1)   |
| A24 P208909              | tripartite motif containing 2(TRIM2)  |
| A24 P153853              | tripartite motif containing 37(TRIM37)  |
| A23 P114983              | tripartite motif containing 63(TRIM63)  |
| A23 P150935              | trophinin associated protein(TROAP)   |
| A23 P141974, A24 P82880  | tropomyosin 4(TPM4)   |
| A23 P166823              | troponin C1, slow skeletal and cardiac type(TNNC1)                              |
| A23 P131825              | troponin C2, fast skeletal type(TNNC2)  |
| A23 P34700               | troponin T2, cardiac type(TNNT2)  |
| A23 P320021              | tubby like protein 1(TULP1)   |
| A23 P56736               | tubulin alpha 3d(TUBA3D)  |
| A23 P77493               | tubulin beta 3 class III(TUBB3)   |
| A23 P371824              | turtelin 1(TUFT1)   |
| A23 P12526               | tumor protein p53 binding protein 2(TP53BP2)                                    |
| A23 P149529              | tumor-associated calcium signal transducer 2(TACSTD2)                           |
| A32 P180741, A23 P61633  | tyrosine kinase non receptor 2(TNK2)  |
| A23 P76690               | ubiquitin C-terminal hydrolase 13(UCHL3)  |
| A24 P297539              | ubiquitin conjugating enzyme E2 C(UBE2C)  |
| A24 P13032               | ubiquitin conjugating enzyme E2 D1(UBE2D1)                                      |
| A23 P145584              | ubiquitin conjugating enzyme E2 H(UBE2H)  |
| A23 P208880              | ubiquitin like with PHD and ring finger domains 1(UHRF1)                        |
| A23 P171366              | ubiquitin specific peptidase 11(USP11)  |
| A24 P107317, A23 P24966  | ubiquitin specific peptidase 2(USP2)  |
| A32 P128701, A24 P137522 | ubiquitin specific peptidase 53(USP53)  |
| A23 P355536              | ubiquitin specific peptidase 54(USP54)  |
| A24 P53215               | unc-13 homolog D(UNC13D)  |
| A24 P73370               | unc-51 like autophagy activating kinase 1(UULK1)                                |
| A23 P47704               | uncoupling protein 2(UCP2)  |
| A23 P64243               | uroplakin 2(UPK2)   |
| A24 P94402               | v-myc avian myelocytomatosis viral oncogene neuroblastoma derived homolog(MYCN) |
| A23 P129695              | vasonin(VASN)   |
| A23 P10785               | vesicle transport through interaction with t-SNAREs 1A(VT1A)                    |
| A23 P161190              | vimentin(VIM)   |
| A23 P65533               | zinc finger CCCH-type containing 12D(ZC3H12D)                                   |
| A23 P11729               | zinc finger and BTB domain containing 7B(ZBTB7B)                                |
| A23 P322395              | zinc finger and SCAN domain containing 1(ZSCAN1)                                |
| A23 P368779              | zinc finger protein 114(ZNF114)   |
| A23 P93269               | zinc finger protein 165(ZNF165)   |
| A23 P415558              | zinc finger protein 212(ZNF212)   |
| A24 P226970              | zinc finger protein 365(ZNF365)   |
| A23 P101351              | zinc finger protein 426(ZNF426)   |
| A23 P49145               | zymogen granule protein 16(ZG16)  |

**22\_Q0-0005886 plasma membrane**

| ID                                    | Gene Name  |
|---------------------------------------|--|
| A24 P316430, A24 P354715              | F- nucleoidase ecto(NIT5E)                                       |
| A23 P214887, A32 P152437              | A-kinase anchoring protein 12(AKAP12)                            |
| A24 P300777                           | ADAM metalloproteinase domain 8(ADAM8)                           |
| A23 P116902                           | ADP-ribosyltransferase 4 (Dombrock blood group)(ART4)            |
| A23 P21363                            | AHNAK nucleoprotein(AHNAK)                                       |
| A23 P207507                           | ATP binding cassette subfamily C member 3(ABCC3)                 |
| A23 P166297                           | ATP binding cassette subfamily G member 1(ABCG1)                 |
| A24 P355626                           | ATP binding cassette subfamily G member 4(ABCG4)                 |
| A23 P215111                           | ATPase H+ transporting V0 subunit a4(ATP6V0A4)                   |
| A23 P87982                            | ATPase H+/K+ transporting non-gastric alpha2 subunit(ATP12A)     |
| A23 P258612                           | ATPase phospholipid transporting 8A2(ATP8A2)                     |
| A23 P208389                           | AXL receptor tyrosine kinase(AXL)                                |
| A23 P167389                           | ARFGAP with RhoGAP domain, ankyrin repeat and PH domain 3(ARAP3) |
| A24 P362540                           | ARFGAP with SH3 domain, ankyrin repeat and PH domain 2(ASAP2)    |
| A23 P15936, A23 P61810, A24 P159648   | BAI1 associated protein 2(BAIP2)                                 |
| A23 P52207                            | BMP and actinin membrane bound inhibitor(BAMBI)                  |
| A24 P148717                           | C-C motif chemokine receptor 1(CCR1)                             |
| A23 P250302                           | C-C motif chemokine receptor 3(CCR3)                             |
| A23 P69310                            | C-C motif chemokine receptor like 2(CCRL2)                       |
| A23 P407565                           | C-X3-C motif chemokine receptor 1(CX3CR1)                        |
| A23 P259863                           | CD177 molecule(CD177)  |
| A23 P161076                           | CD2 molecule(CD2)  |
| A23 P338479                           | CD274 molecule(CD274)  |
| A23 P416747                           | CD3e molecule(CD3E)  |
| A24 P188377                           | CD55 molecule (Cromer blood group)(CD55)                         |
| A23 P70095                            | CD74 molecule(CD74)  |
| A24 P70993                            | CD99 molecule(CD99)  |
| A23 P11602                            | CDC42 effector protein 2(GDC42EP2)                               |
| A24 P160401, A23 P113613              | CUB domain containing protein 1(CDGP1)                           |
| A23 P287910                           | Cbl proto-oncogene(CBL)  |
| A23 P211141                           | DS cell adhesion molecule(DSCAM)                                 |
| A32 P83049                            | EFR3 homolog B(EFR3B)  |
| A23 P52647                            | EH domain containing 1(EHD1)                                     |
| A23 P147822                           | EPS8 like 2(EPSL2)   |
| A32 P30649                            | ETS variant 5(ETV5)  |
| A23 P119478                           | Epstein-Barr virus induced 3(EBI3)                               |
| A23 P420610, A23 P349083              | FCH domain only 2(FCHO2)   |
| A23 P169460                           | FERM and PDZ domain containing 1(FRMPD1)                         |
| A23 P161769                           | FXYP domain containing ion transport regulator 2(FXYD2)          |
| A23 P201211                           | Fc receptor like 5(FcRL5)  |
| A32 P107876                           | Fraser extracellular matrix complex subunit 1(FRAS1)             |
| A23 P123096                           | G protein subunit gamma transducin 1(GNGT1)                      |
| A23 P167095                           | G protein-coupled receptor 160(GPR160)                           |
| A23 P131534                           | G protein-coupled receptor 45(GPR45)                             |
| A23 P36825                            | G protein-coupled receptor class C group 5 member A(GPRC5A)      |
| A32 P215538                           | G-protein signaling modulator 1(GPSM1)                           |
| A23 P219060                           | G-protein signaling modulator 3(GPSM3)                           |
| A24 P273666, A24 P168574, A24 P418809 | GNAS complex locus(GNAS)   |
| A24 P207995                           | L1 cell adhesion molecule(LICAM)                                 |
| A23 P19657                            | LDL receptor related protein 11(LRP11)                           |
| A24 P307869                           | LLGL2, scribble cell polarity complex component(LLGL2)           |
| A24 P316939                           | LRR binding FLLI interacting protein 1(LRRFIP1)                  |
| A23 P94186                            | LY6/PLAUR domain containing 2(LYPD2)                             |
| A24 P323148                           | LY6/PLAUR domain containing 5(LYPD5)                             |
| A23 P310                              | MARCKS like 1(MARCKSL1)  |
| A23 P20494                            | N-myc downstream regulated 1(NDRG1)                              |
| A23 P13693                            | N-myristoyltransferase 2(NMT2)                                   |
| A23 P5200                             | NPHS1, nephrin(NPHS1)  |
| A23 P170213                           | Na+/K+ transporting ATPase interacting 2(NKAIN2)                 |
| A24 P188216                           | PDSS cohesin associated factor A(PDSSA)                          |
| A23 P52121                            | PDZ domain containing 1(PDZK1)                                   |
| A23 P89762                            | PH domain and leucine rich repeat protein phosphatase 1(PHLPPP1) |
| A23 P345118                           | Pim-1 proto-oncogene, serine/threonine kinase(PIM1)              |
| A24 P193295                           | RAB15, member RAS oncogene family(RAB15)                         |
| A23 P5778                             | RAB17, member RAS oncogene family(RAB17)                         |

|  |  |
|--|--|
| A 23 P147025   | RAB33A, member RAS oncogene family(RAB33A)                                 |
| A 23 P388168   | RAB3B, member RAS oncogene family(RAB3B)                                   |
| A 23 P212545   | RAB5A, member RAS oncogene family(RAB5A)                                   |
| A 23 P317465   | RAB8B, member RAS oncogene family(RAB8B)                                   |
| A 23 P424513   | RAN binding protein 9(RANBP9)  |
| A 32 P334325   | RIMS binding protein 2(RIMBP2)   |
| A 24 P282127   | RRAD, Ras related glycolysis inhibitor and calcium channel regulator(RRAD) |
| A 23 P54223  | Rib geranylgeranyltransferase alpha subunit(RABGGTA)                       |
| A 32 P221991   | Ral GEF with PH domain and SH3 binding motif 1(RALGPS1)                    |
| A 24 P173748   | Ral GEF with PH domain and SH3 binding motif 2(RALGPS2)                    |
| A 23 P133095   | Rap guanine nucleotide exchange factor 2(RAPGEF2)                          |
| A 23 P17192  | Rap guanine nucleotide exchange factor 4(RAPGEF4)                          |
| A 23 P51690  | Rh family B glycoprotein (gene/pseudogene)(RHBG)                           |
| A 23 P53370  | Rho family GTPase 1(RND1)  |
| A 32 P213330   | Rho guanine nucleotide exchange factor 28(ARHGEF28)                        |
| A 23 P257743   | SH2 domain containing adaptor protein B(SHB)                               |
| A 32 P306888   | SH3 domain and tetratricopeptide repeats 2(SH3TC2)                         |
| A 23 P169351   | SH3 domain containing GRB2 like 2, endophilin A1(SH3GL2)                   |
| A 23 P374782, A 24 P289139                           | SH3 domain containing kinase binding protein 1(SH3KBP1)                    |
| A 23 P28120  | SIX homeobox 2(SIX2)   |
| A 24 P364838   | SLOC9A3 regulator 2(SLCSA3R2)  |
| A 23 P35316  | SMAAD specific E3 ubiquitin protein ligase 1(SMURF1)                       |
| A 23 P143173   | Src like adaptor 2(SLA2)   |
| A 32 P24372  | TBC1 domain family member 3B(TBC1D3B)                                      |
| A 23 P374695   | TEK receptor tyrosine kinase(TEK)  |
| A 23 P305033   | TGF-beta activated kinase 1/MAP3K7 binding protein 3(TAB3)                 |
| A 23 P71530  | TNF receptor superfamily member 11b(TNFRSF11B)                             |
| A 23 P49338  | TNF receptor superfamily member 12A(TNFRSF12A)                             |
| A 23 P160460   | UDP-N-acetylglucosamine pyrophosphorylase 1(UAP1)                          |
| A 23 P134100   | UL16 binding protein 3(ULBP3)  |
| A 24 P398130   | USP6 N-terminal like(USP6NL)   |
| A 23 P150876   | VPS37B, ESCRT-1 subunit(VPS37B)  |
| A 23 P411157   | Wnt family member 1(WNT1)  |
| A 23 P53588  | Wnt family member 5B(WNT5B)  |
| A 23 P258410   | Wnt family member 7A(WNT7A)  |
| A 23 P18246  | X-C motif chemokine receptor 1(XCR1)                                       |
| A 32 P416181   | XK related, X-linked(XKRLX)  |
| A 23 P303759   | xylylase domain containing 3(ABHD3)  |
| A 32 P137939   | actin beta(ACTB)   |
| A 32 P167239   | actin filament associated protein 1 like 1(AFAP1L1)                        |
| A 32 P156963   | actin gamma 1(ACTG1)   |
| A 23 P105957   | actinin alpha 1(ACTN1)   |
| A 23 P397455   | actinin A receptor type 1(ACVR1C)  |
| A 23 P365738   | activity regulated cytoskeleton associated protein(ARC)                    |
| A 24 P62615  | adenylate cyclase associated protein 1(GAP1)                               |
| A 23 P502336   | adhesion G protein-coupled receptor E2(ADGRE2)                             |
| A 23 P214267, A 23 P365218                           | adhesion G protein-coupled receptor F1(ADGRF1)                             |
| A 23 P46627  | adiponectin receptor 1(ADIPOR1)  |
| A 23 P145024   | adrenoreceptor beta 2(ADRB2)   |
| A 23 P436353, A 23 P256603                           | afadin, adherens junction formation factor(AFDN)                           |
| A 23 P71270, A 24 P49267                             | alpha-2-glycoprotein 1, zinc-binding(AZGP1)                                |
| A 23 P64836, A 24 P409346                            | aminopeptidase puromycin sensitive pseudogene(LOC440434)                   |
| A 23 P216109   | ankyrin 1(ANKK1)   |
| A 24 P98975, A 24 P307572                            | ankyrin repeat domain 13A(ANKRD13A)  |
| A 23 P94501  | annexin A1(ANXA1)  |
| A 24 P323114, A 23 P146644, A 24 P204244, A 32 P1483 | annexin A2(ANXA2)  |
| A 23 P121716   | annexin A3(ANXA3)  |
| A 23 P335495   | anoctamin 7(ANO7)  |
| A 32 P73452  | anoctamin 8(ANO8)  |
| A 24 P345846, A 24 P377144                           | anthrax toxin receptor 2(ANTXR2)   |
| A 23 P203191   | apolipoprotein A1(APOA1)   |
| A 23 P366812   | aquaporin 5(AQP5)  |
| A 23 P106362   | aquaporin 9(AQP9)  |
| A 24 P386622   | arrestin beta 1(ARRB1)   |
| A 23 P391607   | arrestin domain containing 1(ARRDC1)                                       |
| A 24 P18105, A 24 P295245                            | aspartate beta-hydroxylase(ASPH)   |
| A 23 P103722   | atacactin(IGTC)  |
| A 23 P7325   | bone marrow stromal cell antigen 1(BST1)                                   |
| A 23 P152305   | cadherin 11(CDH11)   |
| A 23 P100240   | cadherin 16(CDH16)   |
| A 23 P17593  | cadherin 4(CDH4)   |
| A 23 P202693   | cadherin related family member 5(CDHR5)                                    |
| A 23 P349463   | calcineurin like EF-hand protein 2(OHP2)                                   |
| A 23 P85765  | calcium voltage-gated channel subunit alpha 1 S(CACNA1S)                   |
| A 23 P144458, A 32 P47988                            | calcium/calmodulin dependent protein kinase II delta(CAMK2D)               |
| A 23 P326170   | calmodulin 1(CALM1)  |
| A 24 P382319   | carcinoembryonic antigen related cell adhesion molecule 1(CEACAM1)         |
| A 23 P218442   | carcinoembryonic antigen related cell adhesion molecule 6(CEACAM6)         |
| A 24 P228302   | carcinoembryonic antigen related cell adhesion molecule 7(CEACAM7)         |
| A 23 P82324  | caspase recruitment domain family member 11(CARD11)                        |
| A 23 P52678  | cation channel sperm associated 1(CATSPEAR1)                               |
| A 23 P104651   | cell division cycle associated 5(CDCAS5)                                   |
| A 23 P63281  | ceramide-1-phosphate transfer protein(CPTP)                                |
| A 23 P56709  | charged multivesicular body protein 3(CHMP3)                               |
| A 23 P259189, A 23 P135499                           | chloride intracellular channel 4(CLIC4)                                    |
| A 32 P42946  | chromosome 1 open reading frame 210(C1orf210)                              |
| A 23 P24077  | chromosome 10 open reading frame 54(C10orf54)                              |
| A 32 P183970   | chromosome 15 open reading frame 62(C15orf62)                              |
| A 23 P420551   | citron rho-interacting serine/threonine kinase(CIT)                        |
| A 23 P360924   | claudin 17(CLDN17)   |
| A 23 P164284   | claudin 7(CLDN7)   |
| A 23 P351138   | claudin 9(CLDN9)   |
| A 23 P1331   | collagen type XIII alpha 1 chain(COL13A1)                                  |
| A 23 P110791   | colony stimulating factor 1 receptor(CSF1R)                                |
| A 23 P17851  | complexin 3(CPLX3)   |
| A 23 P18963  | connective tissue growth factor(CTGF)                                      |
| A 23 P144020   | contactin 4(CNTM4)   |
| A 23 P106761   | corosin 1A(CORO1A)   |
| A 24 P367496   | corticotropin releasing hormone receptor 1(CRHR1)                          |
| A 24 P734720   | cyclin Y like 1(CCNYL1)  |
| A 23 P110345   | cysteine rich hydrophobic domain 2(CHIC2)                                  |
| A 23 P52101  | cytochrome b5 reductase 1(CYBR1)   |
| A 23 P59637  | dedicator of cytokinesis 4(DOCK4)  |
| A 24 P350245   | dedicator of cytokinesis 5(DOCK5)  |
| A 32 P104000   | defective in cullin neddylation 1 domain containing 3(DCUN1D3)             |
| A 23 P48740, A 24 P341674                            | deiodinase, iodothyronine type II(DIO2)                                    |
| A 32 P538928   | desmoglein 4(DSG4)   |
| A 23 P8539   | diacylglycerol lipase beta(DAGLB)  |
| A 23 P24139  | disckopp WNT signaling pathway inhibitor 1(DKK1)                           |
| A 23 P416142   | discs large MAGUK scaffold protein 1(DLGI1)                                |
| A 23 P54116  | dishevelled associated activator of morphogenesis 1(DAAM1)                 |
| A 23 P347432, A 23 P201342                           | dishevelled segment polarity protein 1(DVLI1)                              |
| A 23 P398854   | docking protein 7(DOK7)  |
| A 32 P54274  | dopamine receptor D5(DRD5)   |
| A 24 P43681  | drebrin like(DBNL)   |
| A 23 P255444   | dual adaptor of phosphotyrosine and 3-phosphoinositides 1(DAPP1)           |
| A 23 P407074   | dynamitin 2(DNM2)  |
| A 23 P39931  | dyserlin(DYSF)   |
| A 23 P156880, A 32 P192376                           | ectonucleotide pyrophosphatase/phosphodiesterase 1(ENPP1)                  |
| A 23 P70318  | ectonucleotide pyrophosphatase/phosphodiesterase 4 (putative)(ENPP4)       |
| A 24 P236091   | enolase 2(ENO2)  |
| A 23 P91081  | epithelial cell adhesion molecule(EPCAM)                                   |
| A 23 P76458  | epithelial membrane protein 1(EMP1)  |
| A 23 P119362   | epithelial membrane protein 3(EMP3)  |
| A 23 P249416   | erbB2 receptor tyrosine kinase 3(ERBB3)                                    |
| A 23 P30175  | erbB2 interacting protein(ERBIN)   |
| A 23 P134109   | erythrocyte membrane protein band 4.1 like 2(EPB41L2)                      |
| A 23 P351  | erythrocyte membrane protein band 4.1(EPB41)                               |
| A 23 P19590  | ezrin(EZR)   |
| A 23 P22647  | family with sequence similarity 155 member B(FAM155B)                      |
| A 24 P329487   | family with sequence similarity 84 member B(FAM84B)                        |

|                            |   |
|----------------------------|---|
| A 23 P211878               | filamin B(FILNB)  |
| A 24 P77968                | filamin C(FILNC)  |
| A 23 P414308               | folliculin(FLCN)  |
| A 23 P128919               | galectin 3(LGALS3)  |
| A 23 P152605               | gasdermin A(GSDMA)  |
| A 24 P341187               | glucosylceramidase beta 2(GBA2)   |
| A 23 P374889               | glutamate decarboxylase 1(GAD1)   |
| A 23 P303072               | glutamate ionotropic receptor AMPA type subunit 1(GRIA1)                                      |
| A 23 P122863               | growth factor receptor bound protein 10(GRBI10)   |
| A 23 P154526               | growth factor receptor bound protein 14(GRBI14)   |
| A 23 P163992               | growth factor receptor bound protein 7(GRBT7)   |
| A 23 P162874, A 32 P199252 | heat shock protein 90 alpha family class A member 1(HSP90AA1)                                 |
| A 23 P120883               | heme oxygenase 1(HMOX1)   |
| A 23 P100501               | heme oxygenase 2(HMOX2)   |
| A 24 P140608               | heparin binding EGF like growth factor(HBEGF)   |
| A 23 P7535                 | histamine receptor H2(HRH2)   |
| A 23 P70007                | hyaluronan mediated motility receptor(HMMR)   |
| A 23 P379467               | immunoglobulin superfamily containing leucine rich repeat 2(ISLR2)                            |
| A 23 P19517                | inositol 1,4,5-trisphosphate receptor type 3(ITPR3)   |
| A 23 P85640                | inositol polyphosphate-5-phosphatase B(INPP5B)  |
| A 23 P150609               | insulin like growth factor 2(IGF2)  |
| A 23 P171074               | integral membrane protein 2A(ITM2A)   |
| A 32 P178900               | integrin subunit alpha 2(ITGA2)   |
| A 23 P154507               | integrin subunit beta 1 binding protein 1(ITGB1BP1)   |
| A 23 P329573               | integrin subunit beta 2(ITGB2)  |
| A 23 P153320               | intercellular adhesion molecule 1(ICAM1)  |
| A 23 P152655               | intercellular adhesion molecule 2(ICAM2)  |
| A 23 P164691               | intercellular adhesion molecule 3(ICAM3)  |
| A 23 P119143               | intercellular adhesion molecule 5(ICAM5)  |
| A 24 P19677                | interferon lambda receptor 1(IFNLR1)  |
| A 23 P51126                | interleukin 1 receptor like 1(IL1RL1)   |
| A 24 P63019                | interleukin 1 receptor type 2(IL1R2)  |
| A 23 P61057                | interleukin 16(IL16)  |
| A 24 P203000               | interleukin 2 receptor subunit beta(IL2RB)  |
| A 23 P62607                | interleukin 22 receptor subunit alpha 1(IL22RA1)  |
| A 24 P192914               | junction adhesion molecule like(JAML)   |
| A 23 P64423, A 23 P394395  | junctional protein 2(JUP2)  |
| A 23 P215517               | kelch like family member 7(KLHL7)   |
| A 23 P66798                | keratin 19(KRT19)   |
| A 23 P104741               | kin of IRRE like 3 (Drosophila)(KIRREL3)  |
| A 23 P250274               | leucine rich repeat containing 8 family member A(LRRC8A)                                      |
| A 24 P348203               | leucine rich repeat containing 8 family member E(LRRC8E)                                      |
| A 24 P65722                | leukocyte immunoglobulin like receptor B4(LILRB4)   |
| A 23 P259621               | linker for activation of T-cells family member 2(LAT2)  |
| A 23 P84219                | lipase H(LIPH)  |
| A 23 P8083                 | lymphocyte antigen 6 complex, locus G6C(LY6G6C)   |
| A 23 P397293               | lymphocyte antigen 6 complex, locus K(LY6K)   |
| A 23 P204847               | lymphocyte cytosolic protein 1(LCP1)  |
| A 23 P101992               | macrophage receptor with collagenous structure(MARCO)   |
| A 24 P166443, A 23 P258769 | major histocompatibility complex class II DP beta 1(HLA-DPB1)                                 |
| A 24 P370472               | major histocompatibility complex class II DR beta 1(HLA-DRB1)                                 |
| A 24 P62034                | mal, T-cell differentiation protein like(MALL)  |
| A 24 P116535               | matrix metalloproteinase 15(MMP15)  |
| A 23 P376557               | matrix metalloproteinase 25(MMP25)  |
| A 24 P260101               | membrane metalloendopeptidase(MME)  |
| A 23 P390068               | mitotic spindle positioning(MISP)   |
| A 24 P226008               | monoglyceride lipase(MGLL)  |
| A 23 P5211                 | mucin 16, cell surface associated(MUC16)  |
| A 23 P62133                | myotubularin 1(MTM1)  |
| A 23 P73530                | myotubularin related protein 1(MTMR1)   |
| A 23 P123622               | natriuretic peptide receptor 2(NPR2)  |
| A 23 P352870               | nectin cell adhesion molecule 2(NECTIN2)  |
| A 23 P83931                | neuroepithelial cell transforming 1(NET1)   |
| A 24 P168726               | neurofibromin 2(NF2)  |
| A 23 P155900               | neuropeptide FF receptor 2(NPFFR2)  |
| A 23 P13294                | olfactory receptor family 1 subfamily S member 2(OR1S2)                                       |
| A 23 P27917                | olfactory receptor family 10 subfamily H member 1(OR10H1)                                     |
| A 23 P134566               | olfactory receptor family 2 subfamily A member 7(OR2A7)                                       |
| A 23 P54088                | olfactory receptor family 4 subfamily K member 17(OR4K17)                                     |
| A 23 P75764                | olfactory receptor family 5 subfamily A member 1(OR5A1)                                       |
| A 24 P366566               | olfactory receptor family 5 subfamily H member 1(OR5H1)                                       |
| A 23 P47125                | olfactory receptor family 5 subfamily P member 2(OR5P2)                                       |
| A 23 P42424                | olfactory receptor family 5 subfamily V member 1(OR5V1)                                       |
| A 23 P108265               | olfactory receptor family 7 subfamily C member 2(OR7C2)                                       |
| A 23 P16110                | olfactory receptor family 7 subfamily E member 24(OR7E24)                                     |
| A 23 P1819                 | olfactory receptor family 8 subfamily B member 8(OR8B8)                                       |
| A 23 P156289               | oncostatin M receptor(OSMR)   |
| A 23 P96623                | opsin 1 (cone pigments), medium wave sensitive(OPN1MW)  |
| A 32 P205637               | par-6 family cell polarity regulator beta(PARD6B)   |
| A 23 P100711               | peripheral myelin protein 22(PMP22)   |
| A 23 P106906               | periplakin(PPL)   |
| A 23 P111240               | phosphatase and actin regulator 2(PHACTR2)  |
| A 23 P401106               | phosphodiesterase 2A(PDE2A)   |
| A 23 P56356                | phospholipase B1(PLB1)  |
| A 23 P80739                | phospholipase C delta 1(PLCD1)  |
| A 24 P194503, A 24 P238543 | phosphorylase kinase regulatory subunit alpha 1(PHKA1)  |
| A 23 P140738               | piezo type mechanosensitive ion channel component 1(PIEZO1)                                   |
| A 23 P23296                | plakophilin 1(PKP1)   |
| A 23 P16469                | plasminogen activator, urokinase receptor(PLAUR)  |
| A 23 P68121                | pleckstrin and Sec7 domain containing 4(PSD4)   |
| A 23 P149626               | pleckstrin homology and RhoGEF domain containing G5(PLEKHG5)                                  |
| A 23 P23616                | pleckstrin homology domain containing N1(PLEKHN1)   |
| A 23 P215060               | podocalyxin like(PODXL)   |
| A 24 P65616, A 23 P141894  | poliovirus receptor(PVR)  |
| A 23 P500353               | potassium calcium-activated channel subfamily N member 2(KCNK2)                               |
| A 23 P67529                | potassium calcium-activated channel subfamily N member 4(KCNK4)                               |
| A 23 P126075               | potassium two pore domain channel subfamily K member 1(KCNK1)                                 |
| A 23 P3177                 | potassium two pore domain channel subfamily K member 13(KCNK13)                               |
| A 23 P111978               | potassium two pore domain channel subfamily K member 9(KCNK9)                                 |
| A 23 P321846               | potassium voltage-gated channel modifier subfamily S member 1(KCNKS1)                         |
| A 24 P151                  | potassium voltage-gated channel subfamily A regulatory beta subunit 2(KCNAB2)                 |
| A 23 P124988               | potassium voltage-gated channel subfamily H member 4(KCNH4)                                   |
| A 23 P103398               | presenilin 2(PSEN2)   |
| A 23 P109143               | prion protein(PRNP)   |
| A 32 P538180               | progesterin and adipoQ receptor family member 7(PAQR7)  |
| A 23 P94412                | programmed cell death 1 ligand 2(PDCD1LG2)  |
| A 23 P148047               | prostaglandin E receptor 4(PTGER4)  |
| A 23 P71379                | prostate stem cell antigen(PSCA)  |
| A 23 P256088               | protein kinase C and casein kinase substrate in neurons 1(PACSN1)                             |
| A 23 P205667               | protein kinase C eta(PRKCH)   |
| A 23 P67271                | protein kinase N1(PKN1)   |
| A 23 P122041               | protein phosphatase 2 catalytic subunit alpha(PPP2CA)   |
| A 23 P206059               | protein regulator of cytokinesis 1(PRC1)  |
| A 24 P234838               | protocadherin 1(PCDH1)  |
| A 32 P32856                | protocadherin gamma subfamily A, 12(PCDHA12)  |
| A 23 P64611                | pyrimidinergic receptor P2Y6(P2RY6)   |
| A 24 P104119               | ras homolog family member F, filopodia associated(RHOJ)                                       |
| A 24 P82032                | ras homolog family member J(RHOJ)   |
| A 24 P228717, A 23 P218770 | ras-related G3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)(RAC2) |
| A 23 P320578               | regulator of G-protein signaling 16(RGS16)  |
| A 23 P302550               | regulator of G-protein signaling 18(RGS18)  |
| A 23 P114947               | regulator of G-protein signaling 2(RGS2)  |
| A 23 P73097                | regulator of G-protein signaling 20(RGS20)  |
| A 23 P66891                | regulator of G-protein signaling 9(RGS9)  |
| A 23 P285534               | regulator of solute carriers 1(RSC1A1)  |
| A 23 P372308               | repulsive guidance molecule family member alpha(RGMA)   |
| A 23 P64860                | selectin P ligand(SELP3)  |
| A 23 P127068               | semaphorin 4G(SEMA4G)   |
| A 23 P106389               | semaphorin 7A (John Milton Hagen blood group)(SEMA7A)   |
| A 23 P49060                | serine peptidase inhibitor, Kunitz type 1(SPINT1)   |
| A 23 P13822                | serine/threonine/tyrosine kinase 1(STYK1)   |

|                          |   |
|--------------------------|---|
| A23 P88177               | serpin family A member 12(SERPINA12)                                    |
| A24 P245379              | serpin family B member 2(SERPINB2)                                      |
| A23 P50146               | sialic acid binding Ig like lectin 15(SIGLEC15)                         |
| A24 P332647              | slingshot protein phosphatase 1(SSHT)                                   |
| A23 P144348              | slit guidance ligand 2(SLIT2)   |
| A32 P83098               | sodium channel epithelial 1 beta subunit(SCNN1B)                        |
| A23 P46412               | sodium channel epithelial 1 delta subunit(SCNN1D)                       |
| A23 P206626              | sodium channel epithelial 1 gamma subunit(SCNN1G)                       |
| A24 P128233              | sodium voltage-gated channel alpha subunit 5(SCN5A)                     |
| A23 P158725              | solute carrier family 16 member 3(SLC16A3)                              |
| A24 P81900               | solute carrier family 2 member 3(SLC22A3)                               |
| A23 P165657              | solute carrier family 20 member 1(SLC20A1)                              |
| A23 P94921               | solute carrier family 20 member 2(SLC20A2)                              |
| A23 P111395              | solute carrier family 22 member 2(SLC22A2)                              |
| A24 P257971              | solute carrier family 27 member 4(SLC22A4)                              |
| A23 P41789               | solute carrier family 27 member 6(SLC22A6)                              |
| A23 P104705              | solute carrier family 29 member 2(SLC29A2)                              |
| A24 P321068, A24 P928901 | solute carrier family 31 member 1(SLC31A1)                              |
| A23 P155487              | solute carrier family 38 member 3(SLC38A3)                              |
| A24 P385190              | solute carrier family 4 member 1 (Diego blood group)(SLC4A1)            |
| A23 P39647               | solute carrier family 4 member 3(SLC4A3)                                |
| A24 P76690               | solute carrier family 4 member 8(SLC4A8)                                |
| A23 P257176              | solute carrier family 4 member 9(SLC4A9)                                |
| A24 P10657               | solute carrier family 44 member 2(SLC44A2)                              |
| A24 P684183              | solute carrier family 44 member 4(SLC44A4)                              |
| A23 P17826               | solute carrier family 5 member 1(SLC5A1)                                |
| A23 P76396               | solute carrier family 6 member 12(SLC6A12)                              |
| A24 P365721              | solute carrier family 6 member 14(SLC6A14)                              |
| A23 P152995              | solute carrier family 6 member 4(SLC6A4)                                |
| A24 P350683              | solute carrier family 9 member A1(SLC9A1)                               |
| A23 P5903                | solute carrier organic anion transporter family member 4A1(SLCO4A1)     |
| A24 P317907              | sorbin and SH3 domain containing 1(SORBS1)                              |
| A24 P179044              | sorting nexin 9(SNX9)   |
| A23 P102060              | sperm specific antigen 2(SSFA2)   |
| A23 P203488              | sphingomyelin phosphodiesterase 1(SMPD1)                                |
| A23 P163567              | sphingomyelin phosphodiesterase 3(SMPD3)                                |
| A23 P160981              | sphingomyelin phosphodiesterase acid like 3B(SMPDL3B)                   |
| A23 P404481              | sphingosine-1 phosphate receptor 1(S1PR1)                               |
| A23 P128698              | sporadically RTK signaling antagonist 2(SPRY2)                          |
| A23 P47282               | suppression of tumorigenicity 14(ST14)                                  |
| A23 P401076              | sushi domain containing 3(SUSD3)  |
| A24 P402415              | synaptotagmin 14(SYTL4)   |
| A23 P53193               | synaptotagmin like 2(SYTL2)   |
| A24 P291826              | synaptotagmin like 3(SYTL3)   |
| A24 P122337              | synaptotagmin like 4(SYTL4)   |
| A23 P131899              | syndecan binding protein 2(SDCBP2)                                      |
| A23 P168596              | syntaxin 1A(STX1A)  |
| A23 P139143              | syntaxin 3(STX3)  |
| A24 P201171              | syntaxin binding protein 1(STXBP1)                                      |
| A23 P205713, A24 P10214  | syntaxin binding protein 6(STXBP6)                                      |
| A23 P76539               | tescalcic(TESC)   |
| A23 P160167              | tetraspanin 1(TSPAN1)   |
| A23 P90357               | thrombospondin A2 receptor(TBXA2R)                                      |
| A24 P201153, A23 P9293   | tight junction protein 2(TJP2)  |
| A23 P108157              | tight junction protein 3(TJP3)  |
| A23 P330070              | tissue factor pathway inhibitor(TFP1)                                   |
| A23 P10873               | toll like receptor 1(TLR1)  |
| A23 P377291              | transforming growth factor alpha(TGFA)                                  |
| A32 P86763, A24 P923251  | transglutaminase 2(TGM2)  |
| A24 P410463              | transient receptor potential cation channel subfamily M member 6(TRPM6) |
| A23 P207911              | transient receptor potential cation channel subfamily V member 2(TRPV2) |
| A24 P49862               | transient receptor potential cation channel subfamily V member 3(TRPV3) |
| A24 P13381               | transient receptor potential cation channel subfamily V member 4(TRPV4) |
| A23 P211493              | transmembrane protease, serine 6(TMPPRSS6)                              |
| A23 P20021               | tubby like protein 1(TULP1)   |
| A23 P58015               | tweetie family member 1(TTYH1)  |
| A32 P180741, A23 P61633  | tyrosine kinase non receptor 2(TNK2)                                    |
| A23 P140029              | ubiquitin like 3(UBL3)  |
| A23 P129695              | vasopressin(VASN)   |
| A23 P161190              | vimentin(VIM)   |
| A23 P11025               | zinc finger protein 185 (LIM domain)(ZNF185)                            |
| A23 P149189              | zona pellucida glycoprotein 4(ZP4)                                      |

### 23. GO:0005788<sup>+</sup> endoplasmic reticulum lumen

| ID          | Gene Name  |
|-------------|--|
| A23 P393645 | ADAM metalloproteinase with thrombospondin type 1 motif 13(ADAMTS13) |
| A24 P400507 | EGF domain specific O-linked N-acetylglucosaminyl transferase(EOGT)  |
| A24 P147765 | FAD dependent oxidoreductase domain containing 2(FOXRED2)            |
| A23 P128613 | KDEL motif containing 1(KDEL1)                                       |
| A23 P385890 | KDEL motif containing 2(KDEL2)                                       |
| A23 P119916 | Wnt family member 6(WNT6)  |
| A23 P304304 | arylsulfatase F(ARSF)  |
| A23 P19030  | arylsulfatase family member I(ARSI)                                  |
| A23 P52806  | beta-secretase 1(BACE1)  |
| A24 P71661  | cartilage associated protein(CRTAP)                                  |
| A23 P45365  | collagen type IV alpha 5 chain(COL4A5)                               |
| A23 P217379 | collagen type IV alpha 6 chain(COL4A6)                               |
| A23 P83818  | collagen type V alpha 1 chain(COL5A1)                                |
| A23 P33196  | collagen type V alpha 2 chain(COL5A2)                                |
| A32 P32254  | collagen type VI alpha 1 chain(COL6A1)                               |
| A23 P144071 | collagen type VII alpha 1 chain(COL7A1)                              |
| A23 P42322  | collagen type XI alpha 2 chain(COL11A2)                              |
| A23 P501010 | collagen type XVII alpha 1 chain(COL17A1)                            |
| A23 P211212 | collagen type XVIII alpha 1 chain(COL18A1)                           |
| A23 P158096 | collagen type XXIII alpha 1 chain(COL27A1)                           |
| A23 P20243  | endoplasmic reticulum aminopeptidase 2(ERAP2)                        |
| A23 P139687 | endoplasmic reticulum protein 27(ERP27)                              |
| A24 P418816 | glutathione peroxidase 7(GPX7)                                       |
| A24 P876522 | glutathione peroxidase 8 (putative)(GPX8)                            |
| A24 P626850 | hexose-6-phosphate dehydrogenase/glucose 1-dehydrogenase(H6PD)       |
| A23 P115885 | multiple inositol-polyphosphate phosphatase 1(MINPP1)                |
| A24 P393372 | phosphofurin acidic cluster sorting protein 2(PACS2)                 |
| A23 P58396  | platelet derived growth factor C(PDGFC)                              |
| A23 P113701 | platelet derived growth factor subunit A(PDGFA)                      |
| A23 P63038  | prolyl 3-hydroxylase 1(P3H1)   |
| A23 P69179  | prolyl 3-hydroxylase 2(P3H2)   |
| A23 P30363  | prolyl 4-hydroxylase subunit alpha 2(P4HA2)                          |
| A32 P26376  | protein O-glucosyltransferase 1(POGLUT1)                             |
| A23 P140450 | solute carrier family 27 member 2(SLC27A2)                           |
| A24 P130962 | torsin family 3 member A(TOR3A)                                      |

### 24. GO:0022617<sup>+</sup> extracellular matrix disassembly

| ID                       | Gene Name  |
|--------------------------|--|
| A24 P300777              | ADAM metalloproteinase domain 8(ADAM8)                             |
| A24 P128163              | ADAM metalloproteinase with thrombospondin type 1 motif 4(ADAMTS4) |
| A23 P62115               | TIMP metalloproteinase inhibitor 1(TIMP1)                          |
| A24 P169896              | TIMP metalloproteinase inhibitor 2(TIMP2)                          |
| A23 P307310              | agrecan(ACAN)  |
| A23 P94533               | cathepsin L(CTSL)  |
| A23 P146456              | cathepsin V(CTSV)  |
| A32 P86150               | chymotrypsinogen B2(CTRB2)   |
| A24 P186943              | elastin(ELN)   |
| A23 P83328               | endoglin(ENG)  |
| A23 P310257              | kallikrein related peptidase 2(KLK2)                               |
| A24 P276047              | kallikrein related peptidase 4(KLK4)                               |
| A23 P39056               | kallikrein related peptidase 7(KLK7)                               |
| A23 P89780               | laminin subunit alpha 3(LAMA3)                                     |
| A23 P160968, A23 P201636 | laminin subunit gamma 2(LAMC2)                                     |
| A23 P204847              | lymphocyte cytosolic protein 1(LCP1)                               |
| A23 P1691                | matrix metalloproteinase 1(MMP1)                                   |
| A23 P13094               | matrix metalloproteinase 10(MMP10)                                 |



| ID   | Gene Name  |
|--|--|
| A_24 P116535                                     | matrix metalloproteinase 15(MMP15)   |
| <b>26. GO:005114 oxidation-reduction process</b> |  |
| A_23 P202345                                     | 2-aminoethanethiol dioxygenase(ADO)  |
| A_23 P379475                                     | 24-dehydrocholesterol reductase(DHCR24)  |
| A_24 P147765                                     | FAD dependent oxidoreductase domain containing 2(FOXRED2)                            |
| A_23 P0614                                       | NDUFA4, mitochondrial complex associated like 2(NDUFA4L2)                            |
| A_23 P251647                                     | Rieske Fe-S domain containing(RFESD)   |
| A_23 P428260                                     | STEAP2 metalloredutase(STEAP2)   |
| A_23 P71972                                      | WW domain containing oxidoreductase(WWOX)  |
| A_23 P96761                                      | acyl-CoA dehydrogenase, C-4 to C-12 straight chain(ACADM)                            |
| A_23 P157569                                     | alcohol dehydrogenase, iron containing 1(AHFE1)                                      |
| A_23 P258887                                     | aldehyde dehydrogenase 1 family member L1(ALDH1L1)                                   |
| A_23 P207213                                     | aldehyde dehydrogenase 3 family member A1(ALDH3A1)                                   |
| A_23 P24311                                      | aldehyde dehydrogenase 3 family member B2(ALDH3B2)                                   |
| A_23 P170337                                     | aldehyde dehydrogenase 4 family member A1(ALDH4A1)                                   |
| A_23 P70231                                      | aldehyde dehydrogenase 7 family member A1(ALDH7A1)                                   |
| A_24 P385280                                     | aldehyde dehydrogenase 9 family member A1(ALDH9A1)                                   |
| A_23 P93641, A_24 P129341                        | aldo-keto reductase family 1 member B15(AKR1B15)                                     |
| A_23 P258194                                     | apoptosis inducing factor, mitochondria associated 3(AIFM3)                          |
| A_23 P151653                                     | apurinic/apyrimidinic endodeoxyribonuclease 1(APEX1)                                 |
| A_23 P06927                                      | arachidonate 15-lipoxygenase, type B(ALOX15B)  |
| A_23 P29046                                      | carbonyl reductase 1(CBR1)   |
| A_23 P40453                                      | carbonyl reductase 3(CBR3)   |
| A_23 P394986                                     | cellular repressor of E1A stimulated genes 2(CREG2)                                  |
| A_23 P86470                                      | cholesterol 25-hydroxylase(CH25H)  |
| A_24 P398972                                     | coenzyme Q7, hydroxylase(COQ7)   |
| A_23 P162746                                     | crystallin lambda 1(CRYL1)   |
| A_23 P209625                                     | cytochrome P450 family 1 subfamily B member 1(CYP1B1)                                |
| A_23 P52480                                      | cytochrome P450 family 2 subfamily C member 18(CYP2C18)                              |
| A_23 P12767                                      | cytochrome P450 family 2 subfamily C member 9(CYP2C9)                                |
| A_23 P202860                                     | cytochrome P450 family 2 subfamily R member 1(CYP2R1)                                |
| A_23 P101374                                     | cytochrome P450 family 2 subfamily S member 1(CYP2S1)                                |
| A_23 P133712                                     | cytochrome P450 family 39 subfamily A member 1(CYP39A1)                              |
| A_23 P114713                                     | cytochrome P450 family 4 subfamily B member 1(CYP4B1)                                |
| A_23 P169992                                     | cytochrome P450 family 7 subfamily B member 1(CYP7B1)                                |
| A_24 P254551, A_23 P209564                       | cytochrome b5 reductase 1(CYBRD1)  |
| A_23 P342131                                     | cytochrome b5B1 family member A3(CYB5B1A3)   |
| A_23 P174083                                     | cytochrome c, somatic(CYCS)  |
| A_24 P186065                                     | dihydrofolate reductase 2(DHFR2)   |
| A_23 P211045                                     | dihydrofolate reductase(DHFR)  |
| A_23 P135548                                     | dihydropyrimidine dehydrogenase(DPYD)  |
| A_23 P257803                                     | dimethylglycine dehydrogenase(DMGDH)   |
| A_23 P54291                                      | dual oxidase 1(DUOX1)  |
| A_23 P151851                                     | dual oxidase 2(DUOX2)  |
| A_23 P258251                                     | ecto-NOX disulfide-thiol exchanger 2(ENOX2)  |
| A_23 P38154                                      | ferredoxin reductase(FDXR)   |
| A_23 P865  | ferric chelate reductase 1(FRRS1)  |
| A_23 P160992                                     | flavin containing monoxygenase 4(FMO4)   |
| A_23 P127495                                     | gamma-butyrobetaine hydroxylase 1(BBOX1)   |
| A_23 P3039                                       | glutathione peroxidase 2(GPX2)   |
| A_24 P418816                                     | glutathione peroxidase 7(GPX7)   |
| A_24 P876522                                     | glutathione peroxidase 8 (putative)(GPX8)  |
| A_23 P31618                                      | glutathione-disulfide reductase(GSR)   |
| A_23 P123596                                     | glycine decarboxylase(GLDC)  |
| A_24 P626850                                     | hexose-6-phosphate dehydrogenase/glucose 1-dehydrogenase(H6PD)                       |
| A_23 P141992                                     | hydroxysteroid 11-beta dehydrogenase 1 like(HSD11B1L)                                |
| A_23 P45396                                      | hydroxysteroid 17-beta dehydrogenase 10(HSD17B10)                                    |
| A_24 P77082                                      | kyurenine 3-monoxygenase(KMO)  |
| A_23 P127406                                     | lysine demethylase 4B(KDM4B)   |
| A_24 P406754                                     | lysoyl oxidase like 4(LOXL4)   |
| A_23 P400078                                     | methylenetetrahydrofolate reductase(MTHFR)   |
| A_24 P83586                                      | methylmalonic aciduria (cobalamin deficiency) cblC type, with homocystinuria(MMACHC) |
| A_23 P85015                                      | monoamine oxidase B(MAOB)  |
| A_23 P31064                                      | monoxygenase DBH like 1(MOXD1)   |
| A_23 P70149                                      | nicotinamide nucleotide transhydrogenase(NNT)  |
| A_23 P137035                                     | pinin(PIN)   |
| A_23 P30275                                      | premylcysteine oxidase 1 like(PCYOX1L)   |
| A_23 P63038                                      | prolyl 3-hydroxylase 1(P3H1)   |
| A_23 P69179                                      | prolyl 3-hydroxylase 2(P3H2)   |
| A_23 P30363                                      | prolyl 4-hydroxylase subunit alpha 2(P4HA2)  |
| A_23 P113317                                     | prolyl 4-hydroxylase, transmembrane(P4HTM)   |
| A_24 P64167                                      | prostaglandin-endoperoxide synthase 1(PTGS1)   |
| A_23 P37088                                      | retinol dehydrogenase 12 (all-trans/9'-cis/11'-cis)(RDH12)                           |
| A_23 P36484                                      | retinol dehydrogenase 16 (all-trans)(RDH16)  |
| A_23 P93562                                      | sestrin 1(SESN1)   |
| A_23 P361448                                     | sestrin 3(SESN3)   |
| A_24 P317708                                     | short chain dehydrogenase/reductase family 16C, member 5(SDR16C5)                    |
| A_23 P146284                                     | squalene epoxidase(SQLE)   |
| A_23 P30223                                      | steroid 5 alpha-reductase 1(SRD5A1)  |
| A_23 P124176                                     | superoxide dismutase 2, mitochondrial(SOD2)  |
| A_23 P29939                                      | synuclein alpha(SNCA)  |
| A_24 P942517, A_24 P250535                       | thioredoxin related transmembrane protein 4(TMx4)                                    |
| <b>28. GO:0005776 extracellular region</b>       |  |
| A_24 P275073                                     | ADAM metalloproteinase with thrombospondin type 1 motif 14(ADAMTS14)                 |
| A_24 P140405                                     | ADAM metalloproteinase with thrombospondin type 1 motif 3(ADAMTS3)                   |
| A_24 P128163                                     | ADAM metalloproteinase with thrombospondin type 1 motif 4(ADAMTS4)                   |
| A_23 P26325                                      | C-C motif chemokine ligand 17(CCL17)   |
| A_24 P313418                                     | C-C motif chemokine ligand 22(CCL22)   |
| A_23 P207564                                     | C-C motif chemokine ligand 4(CCL4)   |
| A_23 P208492                                     | C-type lectin domain family 4 member M(CLEC4M)                                       |
| A_24 P940149                                     | C2 calcium dependent domain containing 2(C2CD2)                                      |
| A_23 P161076                                     | C2 molecule(CD2)   |
| A_24 P188377                                     | CD55 molecule (Cromer blood group)(CD55)   |
| A_24 P160401, A_23 P113613                       | CLB domain containing protein 1(CDCP1)   |
| A_23 P211141                                     | DS cell adhesion molecule(DSCAM)   |
| A_23 P119478                                     | Epstein-Barr virus induced 3(EBI3)   |
| A_24 P273666, A_24 P168574, A_24 P418809         | GNAS complex locus(GNAS)   |
| A_23 P124892                                     | KISS-1 metastasis-suppressor(KISS1)  |
| A_23 P94186                                      | LY6/PLAUR domain containing 2(LYPD2)   |
| A_23 P107587                                     | NPC intracellular cholesterol transporter 1(NPC1)                                    |
| A_23 P7402                                       | PDZ domain containing 2(PDZD2)   |
| A_23 P155776                                     | POTE ankyrin domain family member K, pseudogene(POTEKP)                              |
| A_24 P106542                                     | R-spondin 3(RSPO3)   |
| A_23 P374695                                     | TEK receptor tyrosine kinase(TEK)  |
| A_23 P62115                                      | TIMP metalloproteinase inhibitor 1(TIMP1)  |
| A_24 P169996                                     | TIMP metalloproteinase inhibitor 2(TIMP2)  |
| A_23 P71530                                      | TNF receptor superfamily member 11b(TNFRSF11B)                                       |
| A_24 P7790                                       | WAP four-disulfide core domain 10B(WFDC10B)  |
| A_23 P68436                                      | WAP four-disulfide core domain 12(WFDC12)  |
| A_23 P218675, A_24 P14464                        | WAP four-disulfide core domain 2(WFDC2)  |
| A_23 P120435                                     | WAP four-disulfide core domain 3(WFDC3)  |
| A_23 P402331                                     | WAP four-disulfide core domain 5(WFDC5)  |
| A_23 P411157                                     | Wnt family member 1(WNT1)  |
| A_23 P53588                                      | Wnt family member 5B(WNT5B)  |
| A_23 P258410                                     | Wnt family member 7A(WNT7A)  |
| A_23 P83149                                      | abhydrolase domain containing 17B(ABHD17B)   |
| A_23 P105957                                     | actinin alpha 1(ACTN1)   |
| A_23 P101655                                     | actinin alpha 4(ACTN4)   |
| A_23 P214267, A_23 P365218                       | adhesion G protein-coupled receptor F1(ADGRF1)                                       |
| A_23 P307310                                     | agrecan(AGAN)  |
| A_23 P71270, A_24 P49267                         | alpha-2-glycoprotein 1, zinc-binding(AZGP1)  |
| A_23 P94501                                      | annexin A1(ANXA1)  |
| A_24 P345846, A_24 P377144                       | anthrax toxin receptor 2(ANTXR2)   |
| A_23 P203191                                     | apolipoprotein A1(APOA1)   |
| A_23 P135722                                     | betacellulin(BTC)  |
| A_23 P19624                                      | bone morphogenetic protein 6(BMP6)   |
| A_24 P414712                                     | bromodomain and PHD finger containing 3(BRPF3)                                       |

|                            |   |
|----------------------------|---|
| A 23 P326170               | calmodulin 1(CALM1)   |
| A 23 P138760               | cardiotrophin-like cytokine factor 1(GLCF1)                                       |
| A 23 P94533                | cathepsin L(CTSL)   |
| A 23 P146456               | cathepsin V(CTSV)   |
| A 23 P425681               | cholecystokinin(CCK)  |
| A 23 P381351               | chorionic somatomammotropin hormone 1(GSH1)                                       |
| A 23 P71478                | chromosome 17 open reading frame 54(C1orf54)                                      |
| A 24 P712582               | chromosome 17 open reading frame 67(C1orf67)                                      |
| A 23 P386268               | chromosome 4 open reading frame 26(C4orf26)                                       |
| A 23 P34852                | chymotrypsin C(CTRC)  |
| A 32 P86150                | chymotrypsinogen B2(CTRB2)  |
| A 23 P215913               | clusterin(CLU)  |
| A 23 P45786                | collagen type IX alpha 2 chain(COL9A2)  |
| A 23 P40108                | collagen type IX alpha 3 chain(COL9A3)  |
| A 23 P69030                | collagen type VIII alpha 1 chain(COL8A1)  |
| A 23 P1331                 | collagen type XIII alpha 1 chain(COL13A1)   |
| A 32 P405759               | collagen type XXII alpha 1 chain(COL22A1)   |
| A 23 P133408               | colony stimulating factor 2(GSF2)   |
| A 23 P19663                | connective tissue growth factor(CTGF)   |
| A 23 P144020               | contactin 4(CNTN4)  |
| A 23 P46429                | cysteine rich angiogenic inducer 61(CYR61)  |
| A 23 P34557                | cytidine deaminase(CDA)   |
| A 23 P169017               | defensin beta 103A(DEFB103A)  |
| A 23 P380671               | defensin beta 105A(DEFB105A)  |
| A 23 P102694               | defensin beta 129(DEFB129)  |
| A 23 P157628               | defensin beta 4A(DEFB4A)  |
| A 23 P27005                | dehydrogenase/reductase 11(DHRS11)  |
| A 23 P86599                | deleted in malignant brain tumors 1(DMBT1)  |
| A 23 P3643                 | deoxyribonuclease 1 like 2(DNASE1L2)  |
| A 23 P24129                | dickkopf WNT signaling pathway inhibitor 1(DKK1)                                  |
| A 24 P186943               | elastin(ELN)  |
| A 23 P214821               | endothelin 1(EDN1)  |
| A 23 P312150               | endothelin 2(EDN2)  |
| A 23 P41344                | epiregulin(EREG)  |
| A 23 P367899               | erythropoietin receptor(EPOR)   |
| A 23 P160559               | extracellular matrix protein 1(EOM1)  |
| A 23 P41204                | family with sequence similarity 131 member A(FAM131A)                             |
| A 23 P213336               | fibroblast growth factor 1(FGF1)  |
| A 23 P212800               | fibroblast growth factor 5(FGF5)  |
| A 24 P32935                | folate receptor beta(FOLR2)   |
| A 23 P212696               | folistatin like 1(FSTL1)  |
| A 23 P110531               | folistatin(FST)   |
| A 23 P45475                | galactosidase alpha(GLA)  |
| A 23 P374844               | galanin and GMAP prepropeptide(GAL)   |
| A 32 P377880               | glial cell derived neurotrophic factor(GDNF)                                      |
| A 23 P133474               | glutathione peroxidase 3(GPX3)  |
| A 23 P47181                | glycoprotein hormone alpha 2(GPHA2)   |
| A 23 P42386                | glycoprotein hormones, alpha polypeptide(CGA)                                     |
| A 23 P76102                | growth differentiation factor 11(GDF11)   |
| A 23 P162874, A 32 P199252 | heat shock protein 90 alpha family class A member 1(HSP90AA1)                     |
| A 23 P167129               | hedghog interacting protein(HHIP)   |
| A 24 P140808               | heparin binding EGF like growth factor(HBEGF)                                     |
| A 24 P155502               | inhibin beta C subunit(INHC)  |
| A 23 P150609               | insulin like growth factor 2(IGF2)  |
| A 23 P199912               | insulin like growth factor binding protein 6(IGFBP6)                              |
| A 23 P353035               | insulin like growth factor binding protein 7(IGFBP7)                              |
| A 23 P144549               | integrin binding sialoprotein(IBSP)   |
| A 23 P113777               | integrin subunit beta like 1(ITGBL1)  |
| A 23 P409438               | interferon lambda 2(IFNL2)  |
| A 23 P72096                | interleukin 1 alpha(IL1A)   |
| A 23 P79518                | interleukin 1 beta(IL1B)  |
| A 24 P63019                | interleukin 1 receptor type 2(IL1R2)  |
| A 23 P126735               | interleukin 10(IL10)  |
| A 23 P81057                | interleukin 16(IL16)  |
| A 23 P104798               | interleukin 18(IL18)  |
| A 23 P76078                | interleukin 23 subunit alpha(IL23A)   |
| A 23 P6654                 | interleukin 3(IL3)  |
| A 23 P34066                | interleukin 9 receptor(IL9R)  |
| A 23 P167168               | joining chain of multimeric IgA and IgM(JCHAIN)                                   |
| A 24 P333697, A 24 P416645 | kallikrein related peptidase 13(KLK13)  |
| A 23 P310257               | kallikrein related peptidase 2(KLK2)  |
| A 24 P376047               | kallikrein related peptidase 4(KLK4)  |
| A 24 P236935               | kallikrein related peptidase 6(KLK6)  |
| A 23 P39056                | kallikrein related peptidase 7(KLK7)  |
| A 23 P104741               | kin of IRRE like 3 (Drosophila)(KIRREL3)  |
| A 23 P166848               | lactotransferrin(LTF)   |
| A 23 P70719                | laminin subunit alpha 2(LAMA2)  |
| A 23 P89780                | laminin subunit alpha 3(LAMA3)  |
| A 23 P160968, A 23 P201636 | laminin subunit gamma 2(LAMC2)  |
| A 24 P122137, A 24 P233488 | leukemia inhibitory factor(LIF)   |
| A 23 P64219                | lipase HLIP(HLIP)   |
| A 23 P169437               | lipocalin 2(LCN2)   |
| A 23 P397293               | lymphocyte antigen 6 complex, locus K(LY6K)                                       |
| A 23 P5703                 | lysozyme 2(LYG2)  |
| A 24 P88763                | lysyl oxidase like 3(LOXL3)   |
| A 23 P1691                 | matrix metalloproteinase 1(MMP1)  |
| A 23 P13094                | matrix metalloproteinase 10(MMP10)  |
| A 23 P150979               | mucin like 1(MUCL1)   |
| A 23 P62752                | natriuretic peptide B(NPPB)   |
| A 23 P4489                 | neuropilin and tolloid like 1(NETO1)  |
| A 23 P147665               | olfactomedin like 1(OLFM1)  |
| A 23 P166408               | oncostatin M(OSM)   |
| A 23 P207336               | pancreatic polypeptide(PPY)   |
| A 24 P208081               | phospholipase A2 group IIF(PLA2GF2)   |
| A 23 P145096               | phospholipase A2 group VII(PLA2G7)  |
| A 23 P149609               | placenta specific 1(PLAC1)  |
| A 24 P339944               | platelet derived growth factor subunit B(PDGFB)                                   |
| A 23 P50657                | pregnancy specific beta-1-glycoprotein 1(PSG1)                                    |
| A 24 P22800                | pregnancy specific beta-1-glycoprotein 11(PSG11)                                  |
| A 23 P56347                | pregnancy specific beta-1-glycoprotein 3(PSG3)                                    |
| A 24 P357726, A 24 P392110 | pregnancy specific beta-1-glycoprotein 8(PSG8)                                    |
| A 23 P39304                | pregnancy specific beta-1-glycoprotein 9(PSG9)                                    |
| A 23 P139434               | proline rich protein BstNI subfamily 1(PRB1)                                      |
| A 23 P116890               | proline rich protein BstNI subfamily 3(PRB3)                                      |
| A 23 P400298               | protease, serine 22(PRSS22)   |
| A 23 P42397                | protease, serine 35(PRSS35)   |
| A 32 P112493               | protein kinase domain containing, cytoplasmic(PKDC)                               |
| A 23 P81926                | psoriasis susceptibility 1 candidate 2(PSORS1C2)                                  |
| A 23 P140256               | purine nucleoside phosphorylase(PNP)  |
| A 23 P12463                | quiescin sulfoxidase 1(QSOX1)   |
| A 23 P134237               | retinoic acid receptor responder 2(RARRES2)                                       |
| A 23 P106080               | ribonuclease A family member 7(RNASE7)  |
| A 23 P376124               | ribonuclease A family member 8(RNASE8)  |
| A 23 P118571               | sclerostin(SOST)  |
| A 23 P145006               | secretoglobin family 3A member 2(SCGB3A2)   |
| A 23 P62081                | secretogranin V(SCG5)   |
| A 23 P92909                | serine peptidase inhibitor, Kazal type 6(SPINK6)                                  |
| A 23 P49060                | serine peptidase inhibitor, Kunitz type 1(SPINT1)                                 |
| A 24 P245379               | serpin family B member 2(SERPINF2)  |
| A 23 P144348               | slit guidance ligand 2(SLIT2)   |
| A 23 P41365                | submaxillary gland androgen regulated protein 3A(SMR3A)                           |
| A 23 P254741               | superoxide dismutase 3, extracellular(SOD3)                                       |
| A 23 P216596               | sushi, von Willebrand factor type A, EGF and pentraxin domain containing 1(SVEP1) |
| A 23 P169556               | syntaxin 1A(SX1A)   |
| A 24 P142118               | thrombospondin 1(THBS1)   |
| A 24 P374516               | thymosin beta 4, X-linked(TMSB4X)   |
| A 23 P330070               | tissue factor pathway inhibitor(TFPI)   |
| A 23 P18751                | transmembrane protease, serine 11E(TMPPRS11E)                                     |
| A 23 P320021               | tubby like protein 1(TULP1)   |
| A 23 P371824               | tuftelin 1(TUFT1)   |
| A 23 P149189               | zona pellucida glycoprotein 4(ZP4)  |

27. GO:0048471<sup>1</sup> perinuclear region of cytoplasm

| ID   | Gene Name   |
|--|---|
| A 23 P148556   | ATP binding cassette subfamily D member 1(ABCD1)                            |
| A 23 P117992   | ATPase secretory pathway Ca <sup>2+</sup> transporting 2(ATP2C2)            |
| A 23 P171946   | B-box and SPRY domain containing(BSPRY)                                     |
| A 23 P163481   | BUB1 mitotic checkpoint serine/threonine kinase B(BUB1B)                    |
| A 23 P407865   | C-X <sub>2</sub> -C motif chemokine receptor 1(CXCR1)                       |
| A 24 P9671   | DnaJ heat shock protein family (Hsp40) member A1(DNAJA1)                    |
| A 23 P215227, A 32 P229746                           | DnaJ heat shock protein family (Hsp40) member B6(DNAJB6)                    |
| A 23 P52647  | EH domain containing 1(EHD1)  |
| A 32 P71788, A 23 P128372                            | FK506 binding protein 4(FKBP4)  |
| A 24 P273666, A 24 P168574, A 24 P418809             | GNAS complex locus(GNAS)  |
| A 23 P117852   | KIAA0101(KIAA0101)  |
| A 23 P20494  | N-myc downstream regulated 1(NDRG1)   |
| A 23 P107587   | NPC intracellular cholesterol transporter 1(NPC1)                           |
| A 24 P193295   | RAB15, member RAS oncogene family(RAB15)                                    |
| A 23 P388168   | RAB3B, member RAS oncogene family(RAB3B)                                    |
| A 23 P317465   | RAB8B, member RAS oncogene family(RAB8B)                                    |
| A 23 P88731  | RAD51 recombinase(RAD51)  |
| A 23 P133095   | Rap guanine nucleotide exchange factor 2(RAPGEF2)                           |
| A 23 P84800  | S100 calcium binding protein A4(S100A4)                                     |
| A 23 P201711   | S100 calcium binding protein A6(S100A6)                                     |
| A 23 P204550   | SCY1 like pseudokinase 2(SCYL2)   |
| A 24 P146670   | STE20 like kinase(SLK)  |
| A 23 P81392  | WW and C2 domain containing 1(WWC1)   |
| A 23 P101655   | actinin alpha 4(ACTN4)  |
| A 24 P73577  | aldehyde dehydrogenase 1 family member A2(ALDH1A2)                          |
| A 23 P258190   | aldo-keto reductase family 1 member B(AKR1B1)                               |
| A 24 P323114, A 23 P146644, A 24 P204244, A 32 P1483 | annexin A2(ANXA2)   |
| A 23 P357104   | annexin A6(ANXA6)   |
| A 23 P131866   | aurora kinase A(AURKA)  |
| A 23 P144458, A 32 P47988                            | calcium/calmodulin dependent protein kinase II delta(CAMK2D)                |
| A 23 P149200   | cell division cycle 20(CDC20)   |
| A 23 P401  | centromere protein F(CENPF)   |
| A 23 P137665   | chitinase 3 like 1(CH3L1)   |
| A 23 P259189, A 23 P135499                           | chloride intracellular channel 4(CLIC4)                                     |
| A 23 P215913   | clusterin(CLU)  |
| A 23 P19663  | connective tissue growth factor(CTGF)                                       |
| A 23 P133585   | cyclin dependent kinase 7(CDK7)   |
| A 23 P48669  | cyclin dependent kinase inhibitor 3(CDKN3)                                  |
| A 32 P104000   | defective in cullin neddylation 1 domain containing 3(DCUN1D3)              |
| A 23 P416142   | discs large MAGUK scaffold protein 1(DLG1)                                  |
| A 23 P5601   | docking protein 1(DOK1)   |
| A 23 P407074   | dynamins 2(DNM2)  |
| A 23 P130027   | epsin 3(EPN3)   |
| A 23 P19590  | ezrin(EZR)  |
| A 23 P152605   | gasdermin A(GSDMA)  |
| A 23 P162874, A 32 P199252                           | heat shock protein 90 alpha family class A member 1(HSP90AA1)               |
| A 23 P111132   | heat shock protein family A (Hsp70) member 1A(HSPA1A)                       |
| A 23 P120983   | heme oxygenase 1(HMOX1)   |
| A 24 P229164, A 23 P398294                           | huntingtin interacting protein 1 related(HIP1R)                             |
| A 32 P178800   | integrin subunit alpha 2(ITGA2)   |
| A 23 P154507   | integrin subunit beta 1 binding protein 1(ITGB1BP1)                         |
| A 23 P160968, A 23 P201636                           | laminin subunit gamma 2(LAMC2)  |
| A 23 P54840  | metallothionein 1A(MT1A)  |
| A 23 P37983  | metallothionein 1B(MT1B)  |
| A 23 P15174  | metallothionein 1F(MT1F)  |
| A 23 P66241  | metallothionein 1M(MT1M)  |
| A 23 P106844   | metallothionein 2A(MT2A)  |
| A 24 P168726   | neurofibromin 2(NF2)  |
| A 24 P925737, A 23 P74309, A 23 P103511              | nitric oxide synthase 1 adaptor protein(NOS1AP)                             |
| A 23 P203658   | phosphatidylinositol binding clathrin assembly protein(PICALM)              |
| A 23 P401106   | phosphodiesterase 2A(PDE2A)   |
| A 23 P116414   | phospholipase A2 group XV(PLA2G16)  |
| A 23 P149626   | pleckstrin homology and RhoGEF domain containing G5(PLEKHG5)                |
| A 24 P114249   | polypeptide N-acetylglucosaminyltransferase 3(GALNT3)                       |
| A 23 P321846   | potassium voltage-gated channel modifier subfamily S member 1(KCNS1)        |
| A 23 P103398   | prasinin 2(PSEN2)   |
| A 23 P258088   | protein kinase C and casein kinase substrate in neurons 1(PACSN1)           |
| A 24 P213763, A 23 P57413                            | protein phosphatase, Mg <sup>2+</sup> /Mn <sup>2+</sup> dependent 1F(PMP1F) |
| A 23 P207842   | retinoic acid receptor alpha(RARA)  |
| A 23 P127460   | signal-induced proliferation-associated 1(SIPA1)                            |
| A 24 P350683   | solute carrier family 9 member A1(SLC9A1)                                   |
| A 23 P254079   | starch binding domain 1(STBD1)  |
| A 23 P251293   | synuclein gamma(SNCG)   |
| A 23 P160167   | tetraspanin 1(TSPAN1)   |
| A 23 P377291   | transforming growth factor alpha(TGFA)                                      |
| A 24 P153853   | tripartite motif containing 37(TRIM37)                                      |
| A 23 P12529  | tumor protein p53 binding protein 2(TP53BP2)                                |
| A 24 P107317, A 23 P24966                            | ubiquitin specific peptidase 2(USP2)  |
| A 24 P18270  | upper zone of growth plate and cartilage matrix associated(UOMA)            |
| A 23 P10785  | vesicle transport through interaction with t-SNAREs 1A(VT1A)                |

28. GO:0048306<sup>1</sup> calcium dependent protein binding

| ID   | Gene Name  |
|--|--|
| A 23 P208482   | C-type lectin domain family 4 member M(CLEC4M)     |
| A 23 P94800  | S100 calcium binding protein A4(S100A4)            |
| A 23 P201711   | S100 calcium binding protein A6(S100A6)            |
| A 23 P58266  | S100 calcium binding protein P(S100P)              |
| A 23 P150876   | VPS37B, ESCRT-1 subunit(VPS37B)                    |
| A 23 P94501  | annexin A1(ANXA1)                                  |
| A 23 P35399, A 32 P150632                            | annexin A11(ANXA11)                                |
| A 24 P323114, A 23 P146644, A 24 P204244, A 32 P1483 | annexin A2(ANXA2)                                  |
| A 23 P121716   | annexin A3(ANXA3)                                  |
| A 23 P357104   | annexin A6(ANXA6)                                  |
| A 23 P88599  | deleted in malignant brain tumors 1(DMBT1)         |
| A 24 P119609, A 23 P389102                           | myosin 1D(MYO1D)                                   |
| A 24 P350683   | solute carrier family 9 member A1(SLC9A1)          |
| A 23 P168556   | syntaxin 1A(STX1A)                                 |
| A 23 P166823   | troponin C1, slow skeletal and cardiac type(TNNC1) |
| A 23 P131825   | troponin C2, fast skeletal type(TNNC2)             |

29. GO:0051015<sup>1</sup> actin filament binding

| ID                         | Gene Name   |
|----------------------------|---|
| A 23 P75529                | PBX/knotted 1 homeobox 2(PKNOX2)  |
| A 23 P23279                | RCSD domain containing 1(RCSD1)   |
| A 23 P105957               | actinin alpha 1(ACTN1)  |
| A 23 P101655               | actinin alpha 4(ACTN4)  |
| A 23 P392384               | allograft inflammatory factor 1 like(AIF1L)                             |
| A 24 P373152               | cofilin 2(CFL2)   |
| A 23 P106761               | coronin 1A(CORO1A)  |
| A 24 P81947                | coronin 1C(CORO1C)  |
| A 23 P135061               | coronin 2A(CORO2A)  |
| A 24 P43681                | drebrin like(DBNL)  |
| A 23 P19590                | ezrin(EZR)  |
| A 24 P77968                | filamin C(FLNC)   |
| A 24 P229164, A 23 P398294 | huntingtin interacting protein 1 related(HIP1R)                         |
| A 23 P204847               | lymphocyte cytosolic protein 1(LCP1)                                    |
| A 24 P119609, A 23 P389102 | myosin 1D(MYO1D)  |
| A 23 P250607               | platin 3(PLS3)  |
| A 23 P152995               | solute carrier family 6 member 4(SLC6A4)                                |
| A 24 P272088               | spectrin beta, erythrocytic(SPTB)                                       |
| A 23 P411551               | spectrin repeat containing nuclear envelope family member 3(SYNE3)      |
| A 23 P102060               | sperm specific antigen 2(SSFA2)   |
| A 24 P13381                | transient receptor potential cation channel subfamily V member 4(TRPV4) |
| A 23 P112289               | tropomodulin 1(TM0D1)   |
| A 23 P141974, A 24 P82880  | tropomyosin 4(TPM4)   |
| A 23 P166823               | troponin C1, slow skeletal and cardiac type(TNNC1)                      |
| A 23 P131825               | troponin C2, fast skeletal type(TNNC2)                                  |
| A 23 P320021               | tubby like protein 1(TULP1)   |

30\_QC-000828<sup>+</sup> cell proliferation

| ID                         | Gene Name   |
|----------------------------|---|
| A 23 P210886               | BCL2 like 1(BCL2L1)   |
| A 23 P163481               | BUB1 mitotic checkpoint serine/threonine kinase B(BUB1B)                                |
| A 23 P124417               | BUB1 mitotic checkpoint serine/threonine kinase(BUB1)                                   |
| A 23 P170095               | CD74 molecule(CD74)   |
| A 23 P214989               | Cbp/p300 interacting transactivator with Glu/Asp rich carboxy-terminal domain 2(CITED2) |
| A 23 P88331                | DLG associated protein 5(DLGAP5)  |
| A 23 P35871                | E2F transcription factor 8(E2F8)  |
| A 23 P130488               | ERCC excision repair 2_TFIIH core complex subunit(ERCC2)                                |
| A 23 P14769                | FES proto-oncogene, tyrosine kinase(FES)  |
| A 23 P335239               | GRB2 associated binding protein 1(GAB1)   |
| A 23 P408094               | MAX dimerization protein 1(MXD1)  |
| A 23 P52121                | PDZ domain containing 1(PDZK1)  |
| A 23 P345118               | Pim-1 proto-oncogene, serine/threonine kinase(PIM1)                                     |
| A 23 P28120                | SIX homeobox 2(SIX2)  |
| A 23 P68610                | TPX2, microtubule nucleation factor(TPX2)   |
| A 23 P259071               | amphiregulin(AREG)  |
| A 23 P130182               | aurora kinase B(AURKB)  |
| A 24 P119259               | basic leucine zipper nuclear factor 1(BLZF1)  |
| A 24 P52921                | branched chain amino acid transaminase 1(BCAT1)   |
| A 23 P401                  | centromere protein F(CENPF)   |
| A 23 P134835               | chondroitin sulfate N-acetylgalactosaminyltransferase 1(CSGALNACT1)                     |
| A 23 P110791               | colony stimulating factor 1 receptor(CSF1R)   |
| A 23 P138507               | cyclin dependent kinase 1(CDK1)   |
| A 23 P133585               | cyclin dependent kinase 7(CDK7)   |
| A 23 P46429                | cysteine rich angiogenic inducer 61(CYR61)  |
| A 23 P163402               | cytochrome P450 family 1 subfamily A member 1(CYP1A1)                                   |
| A 24 P186943               | elastin(ELN)  |
| A 23 P76488                | epithelial membrane protein 1(EMP1)   |
| A 23 P323751               | family with sequence similarity 83 member D(FAM83D)                                     |
| A 23 P213336               | fibroblast growth factor 1(FGF1)  |
| A 23 P212800               | fibroblast growth factor 5(FGF5)  |
| A 23 P112220               | insulin like 4(INSL4)   |
| A 32 P178800               | integrin subunit alpha 2(ITGA2)   |
| A 23 P32404                | interferon stimulated exonuclease gene 20(ISG20)  |
| A 23 P72096                | interleukin 1 alpha(IL1A)   |
| A 23 P34066                | interleukin 9 receptor(IL9R)  |
| A 23 P34788                | kinesin family member 2C(KIF20C)  |
| A 23 P4714                 | melanoma inhibitory activity(MIA)   |
| A 23 P418015               | microtubule associated protein RP/EB family member 2(MAPRE2)                            |
| A 23 P23006                | nardilysin convertase(NRDC)   |
| A 23 P166408               | oncostatin M(OSM)   |
| A 23 P214681, A 24 P252130 | peroxisome proliferator activated receptor delta(PPARD)                                 |
| A 23 P203658               | phosphatidylinositol binding clathrin assembly protein(PICALM)                          |
| A 23 P76851, A 24 P298420  | protein arginine methyltransferase 5(PRMT5)   |
| A 24 P318967               | pyridoxal (pyridoxine, vitamin B6) kinase(PDXK)   |
| A 23 P127460               | signal-induced proliferation-associated 1(SIPAT)  |
| A 23 P104705               | solute carrier family 29 member 2(SLC29A2)  |
| A 23 P318300, A 23 P366394 | sterile alpha motif and leucine zipper containing kinase AZK(ZAK)                       |
| A 23 P160167               | tetraspanin 1(TSPAN1)   |
| A 24 P98249                | transforming acidic coiled-coil containing protein 1(TACC1)                             |
| A 23 P37291                | transforming growth factor alpha(TGFA)  |
| A 23 P149529               | tumor-associated calcium signal transducer 2(TACSTD2)                                   |
| A 23 P208880               | ubiquitin like with PHD and ring finger domains 1(UHRF1)                                |





|    |      |                  |  |    |           |          |  |     |       |             |             |             |          |
|----|------|------------------|--|----|-----------|----------|--|-----|-------|-------------|-------------|-------------|----------|
| 11 | down | GOTERM.BP.DIRECT | GO:0051897 positive regulation of protein kinase B signaling         | 5  | 4.166667  | 0.002446 | A.24.P142118.A.23.P90386.A.23.P00248.<br>A.24.P200777.A.23.P9398   | 84  | 16792 | 8.70752715  | 0.99611936  | 0.370744343 | 3.970889 |
| 12 | down | GOTERM.BP.DIRECT | GO:0045790 positive regulation of bone resorption                    | 3  | 2.5       | 0.033333 | A.24.P399388.A.23.P80133.A.24.P200777.<br>A.24.P142118.A.23.P105962.A.23.P948257.<br>A.23.P344595.A.23.P428950.A.23.P157865.<br>A.23.P8995.A.23.P16624.A.23.P15320.<br>A.23.P293034  | 114 | 16792 | 33.99192033 | 0.98947692  | 0.354740021 | 5.172455 |
| 13 | down | GOTERM.BP.DIRECT | GO:0007195 cell adhesion   | 10 | 8.333333  | 0.003829 | A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058  | 114 | 16792 | 3.209112105 | 0.992132277 | 0.369561102 | 5.916663 |
| 14 | down | GOTERM.BP.DIRECT | GO:0007165 signal transduction                                       | 17 | 14.166667 | 0.004744 | A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058  | 114 | 16792 | 2.156821857 | 0.9931812   | 0.392745424 | 7.280075 |
| 15 | down | GOTERM.MF.DIRECT | GO:0004860 protein kinase inhibitor activity                         | 4  | 3.333333  | 0.004651 | A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058  | 113 | 16881 | 11.49149081 | 0.798976432 | 0.758976432 | 6.394819 |
| 16 | down | GOTERM.BP.DIRECT | GO:0009285 negative regulation of cell proliferation                 | 9  | 7.5       | 0.005008 | A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058  | 114 | 16792 | 3.3476874   | 0.996240043 | 0.398047699 | 8.112696 |
| 17 | down | GOTERM.BP.DIRECT | GO:0045572 positive regulation of osteoclast differentiation         | 3  | 2.5       | 0.007123 | A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058  | 114 | 16792 | 23.25761723 | 0.999445971 | 0.454662476 | 10.74078 |
| 18 | down | GOTERM.MF.DIRECT | GO:0005500 calcium ion binding                                       | 12 | 10        | 0.008058 | A.23.P54291.A.23.P160827.A.24.P116689.<br>A.24.P300777.A.23.P79978.A.23.P57118.<br>A.23.P91390.A.23.P91910.A.23.P126869.<br>A.23.P167076   | 113 | 16881 | 2.500240678 | 0.901131429 | 0.68566269  | 10.177   |
| 19 | down | GOTERM.CC.DIRECT | GO:0016324 apical plasma membrane                                    | 7  | 5.333333  | 0.010393 | A.24.P97038.A.23.P92835.A.23.P54291.<br>A.23.P16180.A.23.P45960.A.23.P44659.<br>A.23.P31390  | 116 | 18224 | 3.779130749 | 0.777696852 | 0.258647004 | 11.6517  |
| 20 | down | GOTERM.BP.DIRECT | GO:030198 extracellular matrix organization                          | 6  | 5         | 0.010471 | A.23.P16180.A.23.P45960.A.23.P44659.<br>A.23.P31390  | 114 | 16792 | 4.509129968 | 0.999993983 | 0.572317346 | 15.40736 |
| 21 | down | GOTERM.BP.DIRECT | GO:0050729 positive regulation of inflammatory response              | 4  | 3.333333  | 0.013119 | A.23.P16180.A.23.P45960.A.23.P44659.<br>A.23.P31390  | 114 | 16792 | 8.071136746 | 0.999999037 | 0.628240454 | 18.93536 |
| 22 | down | GOTERM.CC.DIRECT | GO:0018021 integral component of membrane                            | 45 | 37.5      | 0.013329 | A.23.P10121.A.23.P112452.A.23.P98386.<br>A.24.P39429.A.24.P35097.A.23.P86678.<br>A.23.P7015.A.23.P114057.A.23.P26759.<br>A.23.P120798.A.23.P91512.A.23.P54291.<br>A.24.P84882.A.23.P100711.A.23.P121657.<br>A.24.P88920.A.23.P993034.A.23.P391580.<br>A.23.P85208.A.23.P27606.A.24.P48294.<br>A.23.P29372.A.23.P19817.A.23.P91910.<br>A.23.P8995.A.23.P16624.A.23.P15320.<br>A.23.P41794.A.23.P13066.A.23.P14854.<br>A.24.P0233.A.24.P97036.A.23.P103990.<br>A.24.P4560.A.24.P10668.A.23.P15320.<br>A.23.P19318.A.24.P300777.A.23.P49093.<br>A.23.P84183.A.23.P49747.A.23.P16470.<br>A.23.P16180.A.23.P45960.A.23.P44659.<br>A.23.P31390 | 116 | 18224 | 1.389292112 | 0.895163138 | 0.275338275 | 14.70964 |
| 23 | down | GOTERM.BP.DIRECT | GO:0051100 negative regulation of binding                            | 2  | 1.666667  | 0.013414 | A.23.P382335.A.23.P15123   | 114 | 16792 | 147.2392456 | 0.99999206  | 0.611007827 | 19.3193  |
| 24 | down | GOTERM.MF.DIRECT | GO:0031841 nuclear receptor repressor binding                        | 3  | 2.5       | 0.015761 | A.23.P1253.A.23.P44096.A.24.P18891.<br>A.23.P2420198.A.24.P252497.A.23.P144086.<br>A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058   | 113 | 16881 | 15.40734935 | 0.999999963 | 0.65699691  | 22.8510  |
| 25 | down | GOTERM.BP.DIRECT | GO:0046927 negative regulation of insulin receptor signaling pathway | 3  | 2.5       | 0.016188 | A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058  | 113 | 16792 | 15.27474935 | 0.999999963 | 0.65699691  | 22.8510  |
| 26 | down | GOTERM.MF.DIRECT | GO:0011111 T-cell protein binding                                    | 3  | 2.5       | 0.017897 | A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058  | 113 | 16881 | 14.45703633 | 0.994295922 | 0.729061717 | 21.30272 |
| 27 | down | GOTERM.BP.DIRECT | GO:0011111 T-cell protein binding                                    | 3  | 2.5       | 0.017897 | A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058  | 113 | 16881 | 14.45703633 | 0.994295922 | 0.729061717 | 21.30272 |
| 28 | down | GOTERM.BP.DIRECT | GO:001388 behavioral response to formalin induced pain               | 2  | 1.666667  | 0.020254 | A.24.P29506.A.23.P28242<br>A.23.P19590.A.23.P44589   | 114 | 16792 | 98.18983041 | 0.999999999 | 0.71349946  | 27.55133 |
| 29 | down | GOTERM.BP.DIRECT | GO:004572 prostaglandin transport                                    | 2  | 1.666667  | 0.020254 | A.24.P29506.A.23.P28242<br>A.23.P19590.A.23.P44589   | 114 | 16792 | 98.18983041 | 0.999999999 | 0.71349946  | 27.55133 |
| 30 | down | GOTERM.BP.DIRECT | GO:004572 prostaglandin transport                                    | 2  | 1.666667  | 0.020254 | A.24.P29506.A.23.P28242<br>A.23.P19590.A.23.P44589   | 114 | 16792 | 98.18983041 | 0.999999999 | 0.71349946  | 27.55133 |
| 31 | down | GOTERM.MF.DIRECT | GO:0009201 heparin binding   | 5  | 4.166667  | 0.021924 | A.24.P142118.A.23.P10121.A.23.P1331.<br>A.23.P54144.A.23.P429950   | 113 | 16881 | 4.668418142 | 0.99823874  | 0.652332309 | 25.47789 |
| 32 | down | GOTERM.BP.DIRECT | GO:0046995 positive regulation of transcription, DNA-templated       | 9  | 7.5       | 0.022897 | A.23.P59302.A.23.P10121.A.23.P103251.<br>A.23.P19353.A.23.P94144.A.23.P41765.<br>A.23.P19318.A.23.P393034.A.23.P12927  | 114 | 16792 | 2.574144098 | 1           | 0.74227346  | 30.91466 |
| 33 | down | GOTERM.CC.DIRECT | GO:0005576 extracellular region                                      | 18 | 15        | 0.024161 | A.24.P142118.A.23.P10121.A.23.P103251.<br>A.23.P19353.A.23.P94144.A.23.P41765.<br>A.23.P19318.A.23.P393034.A.23.P12927<br>A.23.P16180.A.23.P45960.A.23.P44659.<br>A.23.P31390  | 116 | 18224 | 1.756436068 | 0.970458602 | 0.385644101 | 25.17374 |
| 34 | down | GOTERM.BP.DIRECT | GO:0007275 multicellular organism development                        | 9  | 7.5       | 0.024432 | A.23.P59302.A.23.P10121.A.23.P103251.<br>A.23.P19353.A.23.P94144.A.23.P41765.<br>A.23.P19318.A.23.P393034.A.23.P12927<br>A.23.P16180.A.23.P45960.A.23.P44659.<br>A.23.P31390   | 114 | 16792 | 2.544494444 | 1           | 0.744784687 | 32.51027 |
| 35 | down | GOTERM.BP.DIRECT | GO:1902476 chloride transmembrane transport                          | 4  | 3.333333  | 0.024622 | A.23.P59302.A.23.P10121.A.23.P103251.<br>A.23.P19353.A.23.P94144.A.23.P41765.<br>A.23.P19318.A.23.P393034.A.23.P12927<br>A.23.P16180.A.23.P45960.A.23.P44659.<br>A.23.P31390   | 114 | 16792 | 6.335406414 | 1           | 0.729268735 | 32.98172 |
| 36 | down | GOTERM.BP.DIRECT | GO:0045786 negative regulation of cell cycle                         | 3  | 2.5       | 0.025947 | A.23.P54144.A.23.P429950<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2420198.A.24.P252497.A.23.P144086.<br>A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058   | 114 | 16792 | 11.943101   | 1           | 0.729862359 | 33.83427 |
| 37 | down | GOTERM.BP.DIRECT | GO:0042510 regulation of tyrosine phosphorylation of Stat protein    | 2  | 1.666667  | 0.026649 | A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2420198.A.24.P252497.A.23.P144086.<br>A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058   | 114 | 16792 | 73.64912281 | 1           | 0.724195528 | 34.90792 |
| 38 | down | GOTERM.BP.DIRECT | GO:0015705 iodine transport  | 2  | 1.666667  | 0.026649 | A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2420198.A.24.P252497.A.23.P144086.<br>A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058   | 114 | 16792 | 73.64912281 | 1           | 0.724195528 | 34.90792 |
| 39 | down | GOTERM.BP.DIRECT | GO:0004469 negative regulation of protein kinase activity            | 4  | 3.333333  | 0.0292   | A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2420198.A.24.P252497.A.23.P144086.<br>A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058   | 114 | 16792 | 5.951444297 | 1           | 0.741174825 | 37.56891 |
| 40 | down | GOTERM.BP.DIRECT | GO:0044242 negative regulation of JAK-STAT cascade                   | 3  | 2.5       | 0.029449 | A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2420198.A.24.P252497.A.23.P144086.<br>A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058   | 114 | 16792 | 11.04738592 | 1           | 0.731654205 | 38.02459 |
| 41 | down | GOTERM.MF.DIRECT | GO:0005129 cytokine activity   | 5  | 4.166667  | 0.029747 | A.23.P1253.A.23.P44096.A.24.P18891.<br>A.23.P2420198.A.24.P252497.A.23.P144086.<br>A.23.P10121.A.24.P265506.A.23.P38397.<br>A.23.P40946.A.23.P94144.A.23.P40927.<br>A.23.P41765.A.23.P100711.A.23.P158318<br>A.23.P24662.A.23.P201731.A.23.P215484.<br>A.23.P29758.A.24.P21752.A.24.P28252.<br>A.23.P142974.A.24.P10668.A.23.P105924.<br>A.23.P12953.A.24.P14820.A.23.P19892.<br>A.23.P86248.A.23.P91390.A.23.P344555.<br>A.23.P420198.A.24.P252497.A.23.P144086.<br>A.23.P2207058   | 113 | 16881 | 4.244016492 | 0.998922526 | 0.708819711 | 33.00803 |
| 42 |      |                  |  |    |           |          |  |     |       |             |             |             |          |





**Supplementary Table S10:**  
**Genes exclusively upregulated and downregulated in LPA vs. Vehicle treatment.**  
*Software: DataSieve, Version 1.4.0 (without Enrichment, Inc.)*

Moderated *T*-Test, corrected *p*-value cut-off 0.05  
 Fold change cut-off 2.0  
*p*-value computation: Asymptotic  
 Multiple Testing Correction: Benjamini-Hochberg

| ProbeName      | FC (Up) Vs (Down) (UP - FO) (log2) | Log FC (Up) Vs (Down) (UP - FO) (log2) | FC (Up) Vs (Down) (UP - FO) (log2) | Regulation (Up) Vs (Down) (log2) | GeneSymbol    | Description  |
|----------------|------------------------------------|--|------------------------------------|----------------------------------|---------------|--|
| A_33_P3271276  | 9.548                              | 748.387                                | up                                 | up                               | PSG5          | Homo sapiens pregnancy specific beta-1-glycoprotein 5 (PSG5), transcript variant 2, mRNA [NM_001380147]  |
| A_23_P56347    | 9.284                              | 623.228                                | up                                 | up                               | PSG3          | Homo sapiens pregnancy specific beta-1-glycoprotein 3 (PSG3), mRNA [NM_021016]   |
| A_21_P0009781  | 8.455                              | 351.006                                | up                                 | up                               | UCA1          | Homo sapiens uterine cancer associated 1 (non-protein coding) (UCA1), long non-coding RNA [NR_015379]  |
| A_24_P10214    | 8.077                              | 270.959                                | up                                 | up                               | STXBP6        | Homo sapiens syntaxin binding protein 6 (Lamina) (STXBP6), mRNA [NM_014178]  |
| A_33_P3072212  | 7.978                              | 262.174                                | up                                 | up                               | PSG1P         | Human processed pseudo-pregnancy-specific glycoprotein (PSG12) gene, exon B2C containing 3 untranslated regions of 2 alternative splice sites C1 and C2. [L4723] |
| A_32_P300238   | 7.940                              | 245.561                                | up                                 | up                               | UCA1          | Homo sapiens uterine cancer associated 1 (non-protein coding) (UCA1), long non-coding RNA [NR_015379]  |
| A_33_P3403018  | 7.874                              | 234.557                                | up                                 | up                               | UCE5A         | Homo sapiens late cornified envelope 5A (UCE5A), mRNA [NM_178438]  |
| A_23_P48327    | 7.872                              | 234.338                                | up                                 | up                               | KCTD4         | Homo sapiens potassium channel tetramerization domain containing 4 (KCTD4), mRNA [NM_189604]   |
| A_24_P3019     | 7.572                              | 190.292                                | up                                 | up                               | IL1R2         | Homo sapiens interleukin 1 receptor, type II (IL1R2), transcript variant 1, mRNA [NM_004633]   |
| A_22_P0001425  | 7.477                              | 178.140                                | up                                 | up                               | LINC00492     | Homo sapiens long intergenic non-protein coding RNA 492 (LINC00492), long non-coding RNA [NR_047482]   |
| A_21_P0000516  | 6.633                              | 162.633                                | up                                 | up                               | PSG1P         | Homo sapiens pregnancy specific beta-1-glycoprotein 10, pseudogene (PSG10), non-coding RNA [NR_028243]   |
| A_21_P0000181  | 7.168                              | 143.856                                | up                                 | up                               | PSG6          | Homo sapiens pregnancy specific beta-1-glycoprotein 6 (PSG6), transcript variant 1, mRNA [NM_029794]   |
| A_23_P205113   | 7.086                              | 135.868                                | up                                 | up                               | STXBP6        | Homo sapiens syntaxin binding protein 6 (Lamina) (STXBP6), mRNA [NM_014178]  |
| A_24_P200219   | 7.080                              | 135.252                                | up                                 | up                               | UPK1B         | Homo sapiens urokinase binding protein 1B (UPK1B), mRNA [NM_008162]  |
| A_23_P33228    | 7.034                              | 131.078                                | up                                 | up                               | MARCH4        | Homo sapiens membrane-associated ring finger (MARCH4), mRNA [NM_020814]  |
| A_33_P330113   | 6.955                              | 124.067                                | up                                 | up                               | MSMP          | Homo sapiens microsome protein, prostate associated (MSMP), mRNA [NM_001044284]  |
| A_23_P39088    | 6.809                              | 112.149                                | up                                 | up                               | GLRX          | Homo sapiens glutaredoxin (thioltransferase) (GLRX), transcript variant 1, mRNA [NM_022064]  |
| A_23_P118554   | 6.761                              | 108.431                                | up                                 | up                               | KRT37         | Homo sapiens keratin 37, type I (KRT37), mRNA [NM_003770]  |
| A_24_P48267    | 6.743                              | 107.989                                | up                                 | up                               | AZGP1P1       | alpha-2-glycoprotein 1, zinc-binding pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:911] [ENS:00000411909]  |
| A_23_P51126    | 6.732                              | 106.329                                | up                                 | up                               | IL1RL1        | Homo sapiens interleukin 1 receptor-like 1 (IL1RL1), transcript variant 1, mRNA [NM_018232]  |
| A_33_P395816   | 6.722                              | 105.587                                | up                                 | up                               | LCE1B         | Homo sapiens late cornified envelope 1B (LCE1B), mRNA [NM_178549]  |
| A_33_P3271341  | 6.713                              | 104.855                                | up                                 | up                               | LCC3B22       | Homo sapiens uncharacterized LOC338292 (LCC3B22), mRNA [NM_001278881]  |
| A_33_P3362008  | 6.688                              | 104.571                                | up                                 | up                               | NHBP          | Homo sapiens matured peptide B (NHBP), mRNA [NM_002921]  |
| A_23_P48740    | 6.688                              | 101.895                                | up                                 | up                               | DI2C          | Homo sapiens diiodotyrosine, type II (DI2C), transcript variant 1, mRNA [NM_013988]  |
| A_24_P128741   | 6.637                              | 99.322                                 | up                                 | up                               | PSG10         | Human processed pseudo-pregnancy-specific glycoprotein 10 (PSG10), non-coding RNA [ENS:00000470303]  |
| A_33_P3260972  | 6.634                              | 99.321                                 | up                                 | up                               | LCE5A         | Homo sapiens late cornified envelope 5A (UCE5A), mRNA [NM_00128600]  |
| A_24_P341274   | 6.625                              | 98.886                                 | up                                 | up                               | DI2C          | Homo sapiens diiodotyrosine, type II (DI2C), transcript variant 1, mRNA [NM_013988]  |
| A_23_P71210    | 6.545                              | 93.361                                 | up                                 | up                               | AZGP1         | Homo sapiens alpha-2-glycoprotein 1, zinc-binding (AZGP1), mRNA [NM_001183]  |
| A_21_P0000686  | 6.431                              | 88.282                                 | up                                 | up                               | LCC10865940   | LCC10865940  |
| A_22_P0001823  | 6.393                              | 84.653                                 | up                                 | up                               | LINC00492     | LINC00492 (inc-ZNF675-1), lincRNA [inc-ZNF675-1]   |
| A_21_P0002289  | 6.345                              | 81.312                                 | up                                 | up                               | ADAMTS 4      | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif, 14 (ADAMTS14), transcript variant 1, mRNA [NM_139155]                                      |
| A_24_P275073   | 6.298                              | 78.705                                 | up                                 | up                               | AGPAT9        | Homo sapiens 1-acylglycerol-3-phosphate O-acyltransferase 9 (AGPAT9), transcript variant 1, mRNA [NM_027171]   |
| A_23_P36810    | 6.252                              | 76.239                                 | up                                 | up                               | GAIBP2        | Homo sapiens gamma-aminobutyric acid (GABA) B receptor, 2 (GAIBP2), mRNA [NM_005458]   |
| A_33_P3408493  | 6.227                              | 74.818                                 | up                                 | up                               | ANKRD30BP3    | Homo sapiens hypothetical protein LOC338579, mRNA (cDNA clone IMAGE529086), [BC045208]   |
| A_33_P352458   | 6.213                              | 74.188                                 | up                                 | up                               | CALB1         | calbindin 1, 28kDa [Source:HGNC Symbol;Acc:HGNC:1434] [ENS:00000469032]  |
| A_23_P43197    | 6.139                              | 70.465                                 | up                                 | up                               | LCC790083     | Homo sapiens uncharacterized LOC729083 (LCC79083), long non-coding RNA [NR_122070]   |
| A_33_P371734   | 6.108                              | 68.892                                 | up                                 | up                               | DEFB103B      | Homo sapiens defensin, beta 103B (DEFB103B), mRNA [NM_018691]  |
| A_23_P169017   | 6.105                              | 68.824                                 | up                                 | up                               | LCE3C         | Homo sapiens late cornified envelope 3C (LCE3C), mRNA [NM_178434]  |
| A_23_P40258    | 6.028                              | 65.135                                 | up                                 | up                               | LCE3D         | Homo sapiens late cornified envelope 3D (LCE3D), mRNA [NM_178435]  |
| A_23_P328958   | 6.023                              | 65.110                                 | up                                 | up                               | MSI1          | Homo sapiens MSS1, methadone transporter (MSS1), mRNA [NM_002256]  |
| A_23_P14282    | 5.987                              | 62.420                                 | up                                 | up                               | PSG1          | Homo sapiens pregnancy specific beta-1-glycoprotein 1 (PSG1), transcript variant 1, mRNA [NM_006905]   |
| A_23_P39697    | 5.978                              | 63.039                                 | up                                 | up                               | PRR4          | Homo sapiens proline-rich protein BcN1, subfamily 4 (PRR4), transcript variant 1, mRNA [NM_002723]   |
| A_33_P321776   | 5.936                              | 61.212                                 | up                                 | up                               | LCE2A         | Homo sapiens late cornified envelope 2A (LCE2A), mRNA [NM_178428]  |
| A_33_P3302125  | 5.927                              | 60.849                                 | up                                 | up                               | LINC00492     | Homo sapiens long intergenic non-protein coding RNA 492 (LINC00492), long non-coding RNA [NR_047482]   |
| A_21_P00019881 | 5.900                              | 59.735                                 | up                                 | up                               | PRR2          | Homo sapiens proline-rich protein BcN1, subfamily 2 (PRR2), mRNA [NM_008248]   |
| A_23_P139424   | 5.842                              | 58.642                                 | up                                 | up                               | PSG2          | Homo sapiens late cornified envelope 2D (LCE2D), mRNA [NM_178430]  |
| A_33_P328958   | 5.811                              | 58.136                                 | up                                 | up                               | LCC2D         | Homo sapiens late cornified envelope 2D (LCE2D), mRNA [NM_178430]  |
| A_21_P0004778  | 5.856                              | 57.938                                 | up                                 | up                               | LCC106697406  | Homo sapiens uncharacterized LOC100697406 (LCC106697406), transcript variant 2, long non-coding RNA [NR_121619]  |
| A_23_P422018   | 5.849                              | 57.649                                 | up                                 | up                               | SPRR4         | Homo sapiens small prolinerich protein 4 (SPRR4), mRNA [NM_175890]   |
| A_23_P401774   | 5.835                              | 57.102                                 | up                                 | up                               | ELMO1         | Homo sapiens ELMO/CE2-12 domain containing 1 (ELMO1), transcript variant 1, mRNA [NM_019175]   |
| A_24_P392110   | 5.829                              | 56.860                                 | up                                 | up                               | PSG8          | Homo sapiens pregnancy specific beta-1-glycoprotein 8 (PSG8), transcript variant 1, mRNA [NM_182707]   |
| A_23_P30065712 | 5.813                              | 56.473                                 | up                                 | up                               | CE6F7         | Homo sapiens chromosome 6 open reading frame 7 (CE6F7), mRNA [NM_001243308]  |
| A_33_P356181   | 5.800                              | 55.720                                 | up                                 | up                               | C6orf1        | Homo sapiens chromosome 6 open reading frame 1 (C6orf1), mRNA [NM_178433]  |
| A_33_P3401658  | 5.782                              | 55.619                                 | up                                 | up                               | PSG2          | Homo sapiens late cornified envelope 2E (LCE2E), mRNA [NM_178435]  |
| A_33_P24376    | 5.403                              | 54.493                                 | up                                 | up                               | KRT49-3       | Homo sapiens keratin associated protein 2-3 (KRT49-3), mRNA [NM_031246]  |
| A_22_P00010314 | 5.275                              | 52.708                                 | up                                 | up                               | inc-MyBBP1A-1 | LINC00492 (inc-MyBBP1A-1), lincRNA [inc-MyBBP1A-1]   |
| A_22_P00021161 | 5.238                              | 52.238                                 | up                                 | up                               | inc-MyBBP1A-2 | Homo sapiens cDNA FLJ38551, clone FRACh2008127, AK093870   |
| A_33_P3415668  | 5.1705                             | 51.705                                 | up                                 | up                               | LCC643923     | Homo sapiens uncharacterized LOC643923 (LCC643923), long non-coding RNA [NR_028328]  |

|                |        |       |        |    |               |   |
|----------------|--------|-------|--------|----|---------------|---|
| A_24_P268795   | 51,414 | 5,684 | 51,414 | up | ADAMTS1       | long intergenic non-protein coding RNA 302 [Source:HGNC Symbol;Acc:HGNC:31825] [ENS:00000444515]  |
| A_33_P3936013  | 51,341 | 5,682 | 51,341 | up | ADAMTS1       | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 1 (ADAMTS1), mRNA [NM_006898]                                      |
| A_24_P410408   | 51,210 | 5,678 | 51,210 | up | KRTF3         | Homo sapiens keratin 83, type II (KRT83), mRNA [NM_002238]  |
| A_19_P00316340 | 50,391 | 5,655 | 50,391 | up | LOC100506880  | Homo sapiens uncharacterized LOC100506880 (LOC100506880), long non-coding RNA [NR_109780]   |
| A_23_P257043   | 50,347 | 5,654 | 50,347 | up | GEM           | Homo sapiens GTP binding protein overexpressed in skeletal muscle (GEM), transcript variant 1, mRNA [NM_006281]                         |
| A_24_P207328   | 49,850 | 5,640 | 49,850 | up | LCE2B         | Homo sapiens late cornified envelope 2B (LCE2B), mRNA [NM_014357]   |
| A_21_P00007259 | 49,848 | 5,639 | 49,848 | up | inc-FER1L6-1  | LINC02416RNA (inc-FER1L6-1), lincRNA [loc-FER1L6-1]   |
| A_21_P2113319  | 48,731 | 5,639 | 48,731 | up | ADAMTS6       | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 6 (ADAMTS6), mRNA [NM_026454]                                      |
| A_33_P2319519  | 48,576 | 5,602 | 48,576 | up | CEBP          | Homo sapiens leucocyte nuclear factor protein (CEBP), mRNA [NM_001029231]   |
| A_23_P160359   | 48,282 | 5,593 | 48,282 | up | ECM1          | Homo sapiens extracellular matrix protein 1 (ECM1), transcript variant 1, mRNA [NM_004425]  |
| A_23_P213137   | 47,712 | 5,576 | 47,712 | up | LNK1          | Homo sapiens ligand of numb-protein X 1, E3 ubiquitin protein ligase (LNK1), transcript variant 2, mRNA [NM_038922]                     |
| A_33_P226179   | 47,031 | 5,556 | 47,031 | up | LCE3E         | Homo sapiens late cornified envelope 3E (LCE3E), mRNA [NM_178435]   |
| A_33_P2289845  | 46,796 | 5,548 | 46,796 | up | IGFL1         | Homo sapiens IGF-like family member 1 (IGFL1), mRNA [NM_198541]   |
| A_21_P0011723  | 46,749 | 5,547 | 46,749 | up | ATG9B         | Homo sapiens autophagy related 9B (ATG9B), transcript variant 1, mRNA [NM_173681]   |
| A_22_P00003783 | 46,713 | 5,546 | 46,713 | up | GSDMA         | Homo sapiens guddamin A (GSDMA), mRNA [NM_178171]   |
| A_23_P152605   | 46,066 | 5,526 | 46,066 | up | LCE3B         | Homo sapiens late cornified envelope 3B (LCE3B), mRNA [NM_178433]   |
| A_23_P1924538  | 45,473 | 5,507 | 45,473 | up | KLK14         | Homo sapiens kallikrein-related peptidase 14 (KLK14), mRNA [NM_022946]  |
| A_33_P2417640  | 45,062 | 5,484 | 45,062 | up | PSG5          | pregnancy specific beta-1-glycoprotein 5 [Source:HGNC Symbol;Acc:HGNC:9322] [ENS:00000401982]   |
| A_33_P3372217  | 44,756 | 5,478 | 44,756 | up | FALEC         | Homo sapiens locally amplified long non-coding RNA in epithelial cancer (FALEC), long non-coding RNA [NR_051980]                        |
| A_22_P00000692 | 44,755 | 5,484 | 44,755 | up | LOC101928101  | PREDIGTED: Homo sapiens uncharacterized LOC101928101 (LOC101928101), mRNA [XR_241131]   |
| A_22_P00009742 | 43,473 | 5,442 | 43,473 | up | MEZC1         | Homo sapiens zebrafish homeobox 1 (MEZC1), transcript variant 1, mRNA [NM_004921]   |
| A_23_P107173   | 42,851 | 5,421 | 42,851 | up | ADAMTS6       | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 6 (ADAMTS6), mRNA [NM_147041]                                      |
| A_33_P2269553  | 42,704 | 5,416 | 42,704 | up | PKB           | Homo sapiens protein kinase (cAMP-dependent, catalytic) inhibitor beta (PKB), transcript variant 1, mRNA [NM_181739]                    |
| A_23_P145529   | 42,566 | 5,412 | 42,566 | up | LOC101930114  | PREDIGTED: Homo sapiens uncharacterized LOC101930114 (LOC101930114), mRNA [XR_429894]   |
| A_22_P00008887 | 41,596 | 5,378 | 41,596 | up | inc-MYBIP1A-2 | ALU6, HUMAN (P3192) Alu subfamily 5C sequence contamination warning entry, partial (8) [TH02542295]                                     |
| A_21_P0014384  | 41,386 | 5,371 | 41,386 | up | CGT6          | myosin, heavy chain 16 pseudogene [Source:HGNC Symbol;Acc:HGNC:31038] [ENS:00000439784]   |
| A_22_P00103035 | 40,692 | 5,347 | 40,692 | up | LCE2C         | Homo sapiens eyelid EFM (GST6), mRNA [NM_001332]  |
| A_21_P00129256 | 40,593 | 5,343 | 40,593 | up | PSG8          | Homo sapiens pregnancy specific beta-1-glycoprotein 8 (PSG8), transcript variant 2, mRNA [NM_001330187]                                 |
| A_23_P146946   | 39,799 | 5,315 | 39,799 | up | KCNNA         | Homo sapiens potassium channel, calcium activated intermediate/small conductance subfamily N alpha, member 4 (KCNNA4), mRNA [NM_002250] |
| A_23_P63521    | 39,793 | 5,314 | 39,793 | up | ASPM          | Homo sapiens egg (chromatid spindle) homolog, microcephaly associated (Drosophila) (ASPM), transcript variant 1, mRNA [NM_018136]       |
| A_21_P0011781  | 39,256 | 5,293 | 39,256 | up | PRB4          | Homo sapiens prokeratin protein B2/N, subfamily 4 (PRB4), transcript variant 1, mRNA [NM_002723]  |
| A_23_P67529    | 39,193 | 5,293 | 39,193 | up | LINC00707     | Homo sapiens long intergenic non-protein coding RNA 707 (LINC00707), long non-coding RNA [NR_039291]                                    |
| A_33_P221527   | 38,459 | 5,265 | 38,459 | up | IL16          | Homo sapiens interleukin 16 (IL16), transcript variant 1, mRNA [NM_004513]  |
| A_33_P2211550  | 38,295 | 5,259 | 38,295 | up | KLK9          | Homo sapiens kallikrein-related peptidase 9 (KLK9), mRNA [NM_012315]  |
| A_33_P2211550  | 38,231 | 5,257 | 38,231 | up | LINC01338     | Homo sapiens long intergenic non-protein coding RNA 1338 (LINC01338), long non-coding RNA [NR_050181]                                   |
| A_21_P0000829  | 37,417 | 5,226 | 37,417 | up | CLCF1         | Homo sapiens cardiotrophin-like cytokine factor 1 (CLCF1), transcript variant 1, mRNA [NM_013246]                                       |
| A_23_P01057    | 36,482 | 5,189 | 36,482 | up | CGerF15       | Homo sapiens chromosome 6 open reading frame 15 (CGerF15), mRNA [NM_014070]   |
| A_33_P2336195  | 36,385 | 5,185 | 36,385 | up | KRT19P2       | Homo sapiens keratin 19 pseudogene 2 (KRT19P2), non-coding RNA [NR_039685]  |
| A_21_P0004416  | 35,958 | 5,168 | 35,958 | up | RNF229        | ring finger protein 229 [Source:HGNC Symbol;Acc:HGNC:40020] [ENS:00000435444]   |
| A_23_P138760   | 35,243 | 5,159 | 35,243 | up | LCE4A         | Homo sapiens late cornified envelope 4A (LCE4A), mRNA [NM_178595]   |
| A_24_P72384    | 34,770 | 5,120 | 34,770 | up | SPNS2         | Homo sapiens sphingosin homolog 2 (Drosophila) (SPNS2), mRNA [NM_001124736]   |
| A_33_P284653   | 34,393 | 5,104 | 34,393 | up | ADAMTS1       | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 1 (ADAMTS1), mRNA [NM_006898]                                      |
| A_21_P0010596  | 33,878 | 5,082 | 33,878 | up | Clcrf68       | Homo sapiens chromosome 1 open reading frame 68 (Clcrf68), mRNA [NM_001024670]  |
| A_33_P2300389  | 33,876 | 5,082 | 33,876 | up | CGerF131      | Homo sapiens chromosome 9 open reading frame 131 (CGerF131), transcript variant 1, mRNA [NM_203298]                                     |
| A_33_P222109   | 33,610 | 5,071 | 33,610 | up | ATG9B         | Homo sapiens autophagy related 9B (ATG9B), transcript variant 1, mRNA [NM_173681]   |
| A_24_P2671     | 33,581 | 5,070 | 33,581 | up | RNASE7        | Homo sapiens ribonuclease A family 7 (RNASE7), mRNA [NM_032572]   |
| A_33_P2265466  | 32,882 | 5,043 | 32,882 | up | PSG8          | Homo sapiens pregnancy specific beta-1-glycoprotein 8 (PSG8), transcript variant 1, mRNA [NM_182707]                                    |
| A_33_P2957703  | 32,393 | 5,018 | 32,393 | up | ADAMTS14      | BX 05723 Soares NSF_R8_3W_OT.PA.P.S1 Homo sapiens cDNA clone IMAGE398D13822, mRNA sequence [BX_057239]                                  |
| A_32_P154053   | 32,086 | 5,004 | 32,086 | up | ADAMTS14      | Homo sapiens ADAMTS-like 4 (ADAMTS14), transcript variant 1, mRNA [NM_018032]   |
| A_23_P106080   | 31,571 | 4,981 | 31,571 | up | RGS9          | Homo sapiens regulator of G-protein signaling 9 (RGS9), transcript variant 1, mRNA [NM_003893]  |
| A_24_P367726   | 31,288 | 4,968 | 31,288 | up | PKD112        | Homo sapiens polycystic kidney disease 11-like 2 (gene pseudogene) (PKD112), transcript variant 1, mRNA [NM_052892]                     |
| A_22_P00065721 | 31,118 | 4,960 | 31,118 | up | PSCA          | Homo sapiens prostate stem cell antigen (PSCA), transcript variant 1, mRNA [NM_005672]  |
| A_23_P115011   | 31,055 | 4,957 | 31,055 | up | LINC00675     | Homo sapiens long intergenic non-protein coding RNA 675 (LINC00675), long non-coding RNA [NR_033851]                                    |
| A_23_P68681    | 30,961 | 4,952 | 30,961 | up | KIF26A        | Homo sapiens kinesin family member 26A (KIF26A), mRNA [NM_018565]   |
| A_24_P246218   | 30,955 | 4,952 | 30,955 | up | PKD112        | Homo sapiens polycystic kidney disease 11-like 2 (gene pseudogene) (PKD112), transcript variant 1, mRNA [NM_052892]                     |
| A_23_P71379    | 30,882 | 4,949 | 30,882 | up | ADAM1         | LINC02416RNA (inc-ADAM1-1), lincRNA [inc-ADAM1-1]   |
| A_21_P00009298 | 30,548 | 4,933 | 30,548 | up | RHOJ          | Homo sapiens ras homolog family member J (RHOJ), mRNA [NM_020663]   |
| A_32_P27317    | 30,526 | 4,932 | 30,526 | up | ATP9A2        | Homo sapiens ATPase, aminophospholipid transporter, class 1, type 8A, member 2 (ATP9A2), mRNA [NM_016529]                               |
| A_32_P27317    | 30,488 | 4,911 | 30,488 | up |               |   |
| A_22_P00000728 | 29,560 | 4,887 | 29,560 | up |               |   |
| A_24_P292032   | 28,764 | 4,846 | 28,764 | up |               |   |
| A_23_P258612   | 28,577 | 4,837 | 28,577 | up |               |   |



|                |        |       |        |    |                    |   |
|----------------|--------|-------|--------|----|--------------------|---|
| A.23.P116815   | 21.007 | 4.393 | 21.007 | up | BRCS5              | Homo sapiens baculoviral IAP repeat containing 5 (BRCS5), transcript variant 3, mRNA [NM_001012271]                                   |
| A.24.P528264   | 20.933 | 4.388 | 20.933 | up | PECC3              | R571182 Alzheyse_RAGE Library Homo sapiens cDNA, mRNA sequence [BC188151]   |
| A.33.P3424057  | 20.875 | 4.384 | 20.875 | up | PECC3              | Homo sapiens partially expressed 3 (PECC3), transcript variant 1, mRNA [NM_008210]  |
| A.23.P59493    | 20.652 | 4.388 | 20.652 | up | SLOC0A1            | Homo sapiens solid carrier organic anion transporter family, member 4A1 (SLOC0A1), mRNA [NM_0169354]                                  |
| A.33.P3381621  | 20.637 | 4.387 | 20.637 | up | PLIB1              | Homo sapiens phospholipase B1, mRNA, cDNA clone IMAGE6147102, complete cds. [BC065041]  |
| A.22.P00004643 | 20.472 | 4.388 | 20.472 | up | TESS-AS1           | TESS antisense RNA 1 (head to head) [Source:HGNC Symbol;Acc:HGNC:1142] [ENS:00000547008]  |
| A.33.P3209860  | 20.460 | 4.395 | 20.460 | up | PASGRP2            | Homo sapiens PAS guanylyl releasing protein 2 (calcium and DAG-regulated) (PASGRP2), transcript variant 2, mRNA [NM_153819]           |
| A.24.P314301   | 20.456 | 4.354 | 20.456 | up | GNR3               | Homo sapiens zinc finger protein 39 (GNR3), transcript variant 1, mRNA [NM_026729]  |
| A.24.P3254106  | 20.432 | 4.353 | 20.432 | up | GNR3               | Homo sapiens zinc finger protein 39 (GNR3), transcript variant 2, mRNA [NM_026729]  |
| A.33.P3301706  | 20.404 | 4.351 | 20.404 | up | NOG                | Homo sapiens noggin (NOG), mRNA [NM_005450] [JFM0247, mRNA [NM_001145715]]  |
| A.21.P00011233 | 20.324 | 4.345 | 20.324 | up | LOC100608851       | PREDICI2: Homo sapiens uncharacterized LOC100608851 (LOC100608851), misc. RNA (XR_105658)   |
| A.23.P163667   | 20.295 | 4.343 | 20.295 | up | SNPD3              | Homo sapiens sphingomyelin phosphodiesterase 3, neutral membrane (neutral sphingomyelinase II) (SNPD3), mRNA [NM_018667]              |
| A.24.P326707   | 20.281 | 4.342 | 20.281 | up | nc-ADAMTSL14-2     | Homo sapiens cDNA clone IMAGE386825, [BC000905]   |
| A.24.P333671   | 20.243 | 4.339 | 20.243 | up | ARI/GAP29          | Rno CT/Dase activating protein 29 [Source:HGNC Symbol;Acc:HGNC:30207] [ENS:00000370247]   |
| A.22.P3381603  | 20.126 | 4.331 | 20.126 | up | LAMA4              | Homo sapiens laminin, alpha 4 (LAMA4), transcript variant 5, mRNA [NM_001105209]  |
| A.23.P157628   | 20.036 | 4.325 | 20.036 | up | DEFB4A             | Homo sapiens defensin, beta 4A (DEFB4A), mRNA [NM_004942]   |
| A.22.P00018244 | 19.987 | 4.321 | 19.987 | up | P-529              | Homo sapiens cDNA FLJ42284, fig. clone TLIVE2005180, [AK124278]   |
| A.23.P398104   | 19.883 | 4.313 | 19.883 | up | P-529              | Homo sapiens pregnancy specific beta-1-glycoprotein 9 (P-529), transcript variant 1, mRNA [NM_002784]                                 |
| A.23.P398108   | 19.815 | 4.308 | 19.815 | up | RAE3B              | Homo sapiens RAE3B, member RAS oncogene family (RAE3B), mRNA [NM_002867]  |
| A.24.P245379   | 19.731 | 4.302 | 19.731 | up | SEPPINB2           | Homo sapiens serpin peptidase inhibitor, class B (ovalbumin), member 2 (SEPPINB2), transcript variant 2, mRNA [NM_022759]             |
| A.23.P12622    | 19.671 | 4.287 | 19.671 | up | INP2               | Homo sapiens inorganic pyrophosphatase 2 (INP2), mRNA [NM_003995]   |
| A.23.P12626    | 19.621 | 4.287 | 19.621 | up | INP2               | Homo sapiens inorganic pyrophosphatase 2 (INP2), transcript variant 4, mRNA [NM_151800]   |
| A.21.P50112226 | 19.436 | 4.281 | 19.436 | up | URAGL/IL-AS1       | Homo sapiens URAGL-interacting protein 1 (URAGLIP1), mRNA [NM_121773]   |
| A.24.P160617   | 19.406 | 4.283 | 19.406 | up | GSF23              | Homo sapiens transcription factor 23 (GSF23), mRNA [NM_001202380]   |
| A.23.P133408   | 19.168 | 4.281 | 19.168 | up | GSF2               | Homo sapiens colony-stimulating factor 2 (granulocyte-macrophage) (GSF2), mRNA [NM_000748]  |
| A.23.P16488    | 19.154 | 4.280 | 19.154 | up | EMPI1              | Homo sapiens epithelial membrane protein 1 (EMPI1), mRNA [NM_001423]  |
| A.33.P3298884  | 19.054 | 4.282 | 19.054 | up | LINC00675          | Homo sapiens long intergenic non-protein coding RNA 675 (LINC00675), long non-coding RNA [NR_038583]                                  |
| A.22.P00024831 | 18.966 | 4.245 | 18.966 | up | nc-HPS4-3          | LINCpeda lincRNA (nc-HPS4-3), lincRNA [nc-HPS4-3]   |
| A.22.P00007839 | 18.853 | 4.237 | 18.853 | up | LINC01559          | Homo sapiens long intergenic non-protein coding RNA 1599 (LINC01559), long non-coding RNA [NR_038555]                                 |
| A.32.P120220   | 18.739 | 4.228 | 18.739 | up | LINC01559          | Homo sapiens long intergenic non-protein coding RNA 1599 (LINC01559), long non-coding RNA [NR_038555]                                 |
| A.33.P3220564  | 18.736 | 4.228 | 18.736 | up | RRT31              | Homo sapiens keratin 31 type I (KRT31), mRNA [NM_002277]  |
| A.23.P107465   | 18.686 | 4.224 | 18.686 | up | PRSS22             | Homo sapiens protease, serine 22 (PRSS22), mRNA [NM_002119]   |
| A.23.P400238   | 18.650 | 4.221 | 18.650 | up | ZSOD195            | Homo sapiens chromosome 20 open reading frame 195 (ZSOD195), mRNA [NM_024059]   |
| A.33.P340459   | 18.643 | 4.221 | 18.643 | up | LUOAT1             | Homo sapiens long cancer associated transcript 1 (non-protein coding) (LUOAT1), transcript variant 1, long non-coding RNA [NR_033949] |
| A.21.P0004421  | 18.636 | 4.220 | 18.636 | up | RAPGEF4            | Homo sapiens Rap guanine nucleotide exchange factor (GEF) 4 (RAPGEF4), transcript variant 1, mRNA [NM_0010231]                        |
| A.23.P17192    | 18.621 | 4.219 | 18.621 | up | RAPGEF4            | Homo sapiens Rap guanine nucleotide exchange factor (GEF) 4 (RAPGEF4), transcript variant 1, mRNA [NM_0010231]                        |
| A.23.P365000   | 18.560 | 4.216 | 18.560 | up | PRB3               | Homo sapiens CD32 molecule (CD32), mRNA [NM_001683]   |
| A.33.P3255343  | 18.551 | 4.213 | 18.551 | up | PRB3               | Homo sapiens peptidase-inhibitor protein Bcl-21 (Bcl-21), mRNA [NM_006249]  |
| A.21.P0001334  | 18.531 | 4.212 | 18.531 | up | nc-ABCD3-1         | LINCpeda lincRNA (nc-ABCD3-1), lincRNA [nc-ABCD3-1]   |
| A.23.P494819   | 18.456 | 4.206 | 18.456 | up | RA642              | Homo sapiens RA642, member RAS oncogene family (RA642), transcript variant 2, mRNA [NM_152304]  |
| A.32.P360325   | 18.380 | 4.200 | 18.380 | up | TMEM86A            | Homo sapiens transmembrane protein 86A (TMEM86A), mRNA [NM_15347]   |
| A.23.P363904   | 18.354 | 4.198 | 18.354 | up | FAM65B             | Homo sapiens family with sequence similarity 65, member B (FAM65B), transcript variant 2, mRNA [NM_015884]                            |
| A.23.P57474    | 18.350 | 4.198 | 18.350 | up | OSBP2              | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM_030758]  |
| A.24.P445059   | 18.317 | 4.195 | 18.317 | up | MYCT1              | Homo sapiens myz target 1 (MYCT1), mRNA [NM_025107]   |
| A.33.P3401295  | 18.241 | 4.189 | 18.241 | up | CRCT1              | Homo sapiens cysteine-rich C-terminal 1 (CRCT1), mRNA [NM_019066]   |
| A.23.P323240   | 18.159 | 4.183 | 18.159 | up | PH9                | Homo sapiens protein rich 9 (PH9), mRNA [NM_00119571]   |
| A.33.P321046   | 18.082 | 4.177 | 18.082 | up | SOD3               | Homo sapiens superoxide dismutase 3, extracellular (SOD3), mRNA [NM_003102]   |
| A.23.P254741   | 18.031 | 4.172 | 18.031 | up | SATL1              | Homo sapiens satellite DNA repeat sequence N1, satellite DNA repeat sequence N1, partial (%) [U01418]                                 |
| A.33.P3356240  | 17.984 | 4.169 | 17.984 | up | AIU_HUMAN (P31195) | AIU subfamily S/A sequence contamination warning entry, partial (%) [U01418]  |
| A.21.P0001225  | 17.924 | 4.164 | 17.924 | up | ICAM1              | Homo sapiens intercellular adhesion molecule 1 (ICAM1), mRNA [NM_000201]  |
| A.21.P0003468  | 17.860 | 4.159 | 17.860 | up | nc-WDR11-1         | LINCpeda lincRNA (nc-WDR11-1), lincRNA [nc-WDR11-1]   |
| A.23.P163200   | 17.749 | 4.150 | 17.749 | up | FAM43B             | Homo sapiens family with sequence similarity 43, member B (FAM43B), mRNA [NM_207334]  |
| A.21.P0007083  | 17.729 | 4.148 | 17.729 | up | FAM43B             | evolutionary translation initiation factor 4 gamma, 3 [Source:HGNC Symbol;Acc:HGNC:3248] [ENS:00000374933]                            |
| A.32.P125338   | 17.689 | 4.146 | 17.689 | up | EIF4G3             | Homo sapiens eukaryotic translation initiation factor 4 gamma, 3 [Source:HGNC Symbol;Acc:HGNC:3248] [ENS:00000374933]                 |
| A.33.P3267116  | 17.685 | 4.145 | 17.685 | up | EIF4G3             | Homo sapiens eukaryotic translation initiation factor 4 gamma, 3 [Source:HGNC Symbol;Acc:HGNC:3248] [ENS:00000374933]                 |
| A.33.P3448815  | 17.525 | 4.131 | 17.525 | up | C16orf144          | Homo sapiens, clone IMAGE4088392, mRNA, partial cds. [BC007749]   |
| A.22.P00013760 | 17.466 | 4.129 | 17.466 | up | LOC118445          | Homo sapiens uncharacterized LOC118445 (LOC118445), long non-coding RNA [NR_038398]   |
| A.33.P3745956  | 17.417 | 4.122 | 17.417 | up | XPAS1              | BROAD Institute lincRNA (XPAS1), long non-coding RNA [NM_0091559]   |
| A.21.P0010656  | 17.372 | 4.119 | 17.372 | up | NPAS1              | Homo sapiens neuronal PAS domain protein 1 (NPAS1), mRNA [NM_002571]  |
| A.22.P227734   | 17.340 | 4.116 | 17.340 | up | KLX3               | Homo sapiens kalirin-related peptidase 6 (KLX6), transcript variant B (NPAS1), mRNA [NM_002571]                                       |
| A.24.P236835   | 17.300 | 4.113 | 17.300 | up | PHR23A             | Homo sapiens G-protein-coupled receptor class C, group 5, member A (GPC5A), mRNA [NM_003979]  |
| A.23.P36925    | 17.287 | 4.112 | 17.287 | up | PHR23A             | Homo sapiens G-protein-coupled receptor class C, group 5, member A (GPC5A), mRNA [NM_003979]  |
| A.22.P30273849 | 17.034 | 4.080 | 17.034 | up | nc-EG3-1           | Homo sapiens cDNA DKFZ380633011 (from clone DKFZ380633011), [AL353180]  |
| A.23.P326106   | 16.986 | 4.074 | 16.986 | up | EG3-1              | Homo sapiens EG3-1 (EG3-1), transcript variant 2, mRNA [NM_001145715]   |
| A.21.P326106   | 16.986 | 4.074 | 16.986 | up | EG3-1              | Homo sapiens EG3-1 (EG3-1), transcript variant 1, mRNA [NM_001145715]   |
| A.33.P326106   | 16.984 | 4.078 | 16.984 | up | GAADD4B            | Homo sapiens growth arrest and DNA-damage-inducible beta (GADD45B), mRNA [NM_018675]  |
| A.24.P238806   | 16.845 | 4.074 | 16.845 | up | LINC00659          | Homo sapiens long intergenic non-protein coding RNA 659 (LINC00659), transcript variant 1, long non-coding RNA [NR_046224]            |
| A.19.P00017878 | 16.823 | 4.072 | 16.823 | up | LINC00659          | Homo sapiens long intergenic non-protein coding RNA 659 (LINC00659), transcript variant 1, long non-coding RNA [NR_046224]            |
| A.23.P113777   | 16.807 | 4.071 | 16.807 | up | TGDBL1             | Homo sapiens integrin, beta-like 1 (with EGF-like repeat domain) (ITGBL1), transcript variant 1, mRNA [NM_004791]                     |

|                |        |       |        |                |    |   |
|----------------|--------|-------|--------|----------------|----|---|
| A.23.P17134    | 16.700 | 4.069 | 16.700 | MAL            | up | Homo sapiens mal, T-cell differentiation protein (MAL), transcript variant 2, mRNA [NM_002371]  |
| A.24.P122137   | 16.781 | 4.069 | 16.781 | ZNF            | up | Homo sapiens leukemia inhibitory factor (LIF), transcript variant 1, mRNA [NM_002309]   |
| A.32.P167804   | 16.739 | 4.065 | 16.739 | ZNF881         | up | Homo sapiens zinc finger protein 881 (ZNF881), mRNA [NM_138288]   |
| A.21.P0001340  | 16.606 | 4.054 | 16.606 | INC-ABC03-2    | up | INC-ABC03-2   |
| A.33.P39824237 | 16.603 | 4.053 | 16.603 | INC000857      | up | Homo sapiens long intergenic non-protein coding RNA 857 (LINC00857), long non-coding RNA [RF_038464]                                    |
| A.23.P107421   | 16.593 | 4.052 | 16.593 | TKT            | up | Homo sapiens thymidine kinase 1, soluble (TK1), mRNA [NM_009298]  |
| A.22.P00029246 | 16.559 | 4.050 | 16.559 | INC-GRP55-2    | up | INC-GRP55-2   |
| A.22.P00016564 | 16.496 | 4.044 | 16.496 | INC-TNFRSF3B-4 | up | INC-TNFRSF3B-4  |
| A.23.P135722   | 16.491 | 4.044 | 16.491 | BTC            | up | Homo sapiens betacellulin (BTC), mRNA [NM_081729]   |
| A.23.P2959621  | 16.476 | 4.042 | 16.476 | LAT2           | up | Homo sapiens linker for activation of T cells family, member 2 (LAT2), transcript variant 1, mRNA [NM_028464]                           |
| A.33.P2325940  | 16.429 | 4.038 | 16.429 | KLKB1          | up | Homo sapiens kallikrein-related peptidase 6 (KLKB1), transcript variant B, mRNA [NM_00102864]   |
| A.22.P00014252 | 16.383 | 4.035 | 16.383 | INC-SEM4D-2    | up | INC-SEM4D-2   |
| A.22.P00009467 | 16.386 | 4.034 | 16.386 |                | up |   |
| A.33.P0311493  | 16.304 | 4.027 | 16.304 | TRHDE-AS1      | up | Homo sapiens TRHDE antisense RNA 1 (TRHDE-AS1), transcript variant 2, long non-coding RNA [NR_028838]                                   |
| A.23.P118894   | 16.221 | 4.020 | 16.221 | PRII-EL        | up | Homo sapiens prolactin rich, 15-like (PRII-EL), mRNA [NM_024320]  |
| A.23.P417383   | 16.211 | 4.019 | 16.211 | ASPRV1         | up | Homo sapiens aspartic peptidase, retroviral-like 1 (ASPRV1), mRNA [NM_159792]   |
| A.23.P368024   | 16.192 | 4.017 | 16.192 | GLDN17         | up | Homo sapiens claudin 17 (GLDN17), mRNA [NM_012181]  |
| A.22.P00013654 | 16.150 | 4.013 | 16.150 |                | up |   |
| A.33.P0334903  | 16.093 | 4.008 | 16.093 | SMOC1          | up | Homo sapiens SPARCO related modular calcium binding 1 (SMOC1), transcript variant 2, mRNA [NM_021377]                                   |
| A.33.P0391220  | 15.981 | 3.998 | 15.981 | SULT1C2P1      | up | Homo sapiens sulfotransferase family, cytosolic, 1C, member 2 pseudogene 1 (SULT1C2P1), non-coding RNA [RF_037191]                      |
| A.23.P386768   | 15.973 | 3.998 | 15.973 | C4orf26        | up | Homo sapiens chromosome 4 open reading frame 26 (C4orf26), transcript variant 2, mRNA [NM_178497]                                       |
| A.32.P2954993  | 15.956 | 3.996 | 15.956 | PRES1          | up | Homo sapiens proline-rich protein BSM subfamily 1 (PRES1), transcript variant 1, mRNA [NM_005239]                                       |
| A.23.P16624    | 15.933 | 3.994 | 15.933 | EMPA           | up | Homo sapiens epsilon microglobulin (EMPA), mRNA [NM_001308]   |
| A.33.P2325565  | 15.910 | 3.992 | 15.910 | CLDN3          | up | Homo sapiens claudin 3 (CLDN3), mRNA [NM_001308]  |
| A.33.P2320801  | 15.886 | 3.990 | 15.886 | LMO7           | up | Homo sapiens LIM domain 7 (LMO7), transcript variant 1, mRNA [NM_005589]  |
| A.23.P214267   | 15.873 | 3.989 | 15.873 | GPRI10         | up | Homo sapiens G protein-coupled receptor 110 (GPRI10), transcript variant 1, mRNA [NM_153840]  |
| A.23.P101883   | 15.818 | 3.984 | 15.818 | GLC            | up | Homo sapiens Cholesteryl-Leyden crystal globulin (GLC), mRNA [NM_001828]  |
| A.23.P3965738  | 15.789 | 3.981 | 15.789 | ARC            | up | Homo sapiens activin-1 regulated cytoskeleton-associated protein (ARC), mRNA [NM_015193]  |
| A.21.P0002260  | 15.729 | 3.976 | 15.729 | INC-ILFR2-1    | up | INC-ILFR2-1   |
| A.24.P9739     | 15.728 | 3.975 | 15.728 | KRT18          | up | Homo sapiens keratin 8, type II (KRT18), transcript variant 2, mRNA [NM_002273]   |
| A.23.P120883   | 15.706 | 3.973 | 15.706 | GAL3ST1        | up | Homo sapiens galactose-3-O-sulfotransferase 1 (GAL3ST1), mRNA [NM_004881]   |
| A.32.P183870   | 15.671 | 3.961 | 15.671 | CTSV           | up | Homo sapiens cathepsin V (CTSV), transcript variant 1, mRNA [NM_001333]   |
| A.23.P146456   | 15.546 | 3.958 | 15.546 | SBFA           | up | Homo sapiens gap junction protein beta 4, 303cM4 (GJB4), mRNA [NM_183212]   |
| A.33.P398391   | 15.522 | 3.956 | 15.522 |                | up |   |
| A.21.P0013524  | 15.436 | 3.948 | 15.436 | OTUD0B-AS1     | up | PREDICTED: Homo sapiens uncharacterized LOC100806965 (GS1-2519.4), transcript variant X3, mRNA [XR_492334]                              |
| A.21.P0002385  | 15.402 | 3.945 | 15.402 |                | up | long intergenic non-protein coding RNA 1246 [Source:Ensembl;GeneAcc:10272816]   |
| A.23.P147025   | 15.367 | 3.942 | 15.367 | RAB33A         | up | ENS:00000504326, member RAS oncogene family (RAB33A), mRNA [NM_004784]  |
| A.23.P98177    | 15.349 | 3.940 | 15.349 | SEPPIN1A2      | up | Homo sapiens beta gamma peptide inhibitor, class A, type I (seppinase, antyepin), member 12 (SEPPIN1A2), mRNA [NM_173850]               |
| A.23.P103817   | 15.316 | 3.937 | 15.316 | ANKA9          | up | Homo sapiens ankyrin 9 (ANKA9), mRNA [NM_005568]  |
| A.24.P186943   | 15.307 | 3.936 | 15.307 |                | up | keratin 18 pseudogene 26 [Source:HGNC Symbol;Acc:HGNC:33397; ENS:00000493838]   |
| A.19.P00080522 | 15.233 | 3.929 | 15.233 | MUSL10N        | up | MUSL10N, lorcin (Mus musculus) (cops-1, wgr-9, egr-9), partial (9), [HIC28682927]   |
| A.33.P333625   | 15.224 | 3.928 | 15.224 | PRES1          | up | Homo sapiens proline-rich protein BSM subfamily 1 (PRES1), transcript variant 3, mRNA [NM_198354]                                       |
| A.22.P00015676 | 15.217 | 3.928 | 15.217 | Q8BA15         | up | Q8BA15, HUMAN (Q8BA15), CPXMAZ protein, partial (7%), [HIC2804186]  |
| A.23.P94611    | 15.205 | 3.927 | 15.205 | P2RY6          | up | Homo sapiens pyrimidinergic receptor P2Y, G-protein coupled, 6 (P2RY6), transcript variant 2, mRNA [NM_178798]                          |
| A.23.P106389   | 15.177 | 3.924 | 15.177 | SEMA7A         | up | Homo sapiens semaphorin 7A, GPI membrane anchor (John Milton Hagen blood group) (SEMA7A), transcript variant 1, mRNA [NM_00812]         |
| A.33.P300678   | 15.158 | 3.922 | 15.158 | MYH18          | up | Homo sapiens myosin, heavy chain 18 pseudogene (MYH18), non-coding RNA [NR_021477]  |
| A.23.P127858   | 15.148 | 3.921 | 15.148 | MUC1           | up | Homo sapiens mucin 1, cell surface associated (MUC1), transcript variant 1, mRNA [NM_002456]  |
| A.22.P00006577 | 15.135 | 3.920 | 15.135 | INC-FPGS-2     | up | INC-FPGS-2  |
| A.19.P0031214  | 15.123 | 3.917 | 15.123 |                | up | Homo sapiens membrane-associated ring finger (GRH9) 3, E3 ubiquitin protein ligase (MARCH3), mRNA [NM_178490]                           |
| A.19.P00321383 | 15.037 | 3.910 | 15.037 | GSF23          | up | Homo sapiens immunoglobulin superfamily, member 23 (GSF23), mRNA [NM_001205290]   |
| A.24.P288846   | 15.030 | 3.910 | 15.030 | GOL11A         | up | Homo sapiens golgi transport 1A (GOL11A), mRNA [NM_188442]  |
| A.22.P00010329 | 14.982 | 3.905 | 14.982 | INC-MYB-1      | up | BY984448 full-length enriched Human Met Cell cDNA library Homo sapiens cDNA clone MCH0786.5; mRNA sequence [BY984448]                   |
| A.32.P47794    | 14.909 | 3.888 | 14.909 | SLOC2A14       | up | Homo sapiens solute carrier family 2 (facilitated glucose transporter), member 14 (SLOC2A14), transcript variant 1, mRNA [NM_001282333] |
| A.33.P2315286  | 14.883 | 3.896 | 14.883 | KRT78          | up | Homo sapiens keratin 78, type II (KRT78), transcript variant 1, mRNA [NM_173592]  |
| A.33.P2381623  | 14.881 | 3.895 | 14.881 | PLB1           | up | Homo sapiens phospholipase B1 (PLB1), transcript variant 1, mRNA [NM_150921]  |
| A.22.P00005445 | 14.873 | 3.885 | 14.873 | LOC10028188    | up | Homo sapiens uncharacterized LOC10028188 (LOC100288188), transcript variant 2, long non-coding RNA [NR_028683]                          |
| A.23.P17826    | 14.869 | 3.877 | 14.869 | SLOC5A1        | up | Homo sapiens solute carrier family 5 (sodium/glucose cotransporter), member 1 (SLOC5A1), transcript variant 1, mRNA [NM_000343]         |
| A.33.P2925304  | 14.868 | 3.877 | 14.868 | GGT5           | up | Homo sapiens gamma-glutamyltransferase 5 (GGT5), transcript variant 1, mRNA [NM_001099781]  |
| A.33.P333423   | 14.863 | 3.875 | 14.863 | SPRRG3         | up | Homo sapiens small proline-rich protein 23 (SPRRG3), mRNA [NM_001014291]  |
| A.23.P17328    | 14.842 | 3.872 | 14.842 | GOPFR          | up | Homo sapiens GTP cyclohydrolase 1 feedback regulator (GOPFR), mRNA [NM_002493]  |
| A.32.P2951658  | 14.832 | 3.869 | 14.832 | MARCKS         | up | Homo sapiens MAP-1B domain containing 2 (MARCKS2), [MIM:612321], mRNA [NM_001303091.9]  |
| A.22.P00022570 | 14.808 | 3.859 | 14.808 | PREDICTED      | up | PREDICTED: Homo mobility group superfamily, member 2 (MGC22570), transcript variant 1, mRNA [NM_0010000461609]                          |
| A.24.P240714   | 14.806 | 3.859 | 14.806 | Q2RY30         | up | Q2RY30, RHORT (Q2RY30), Dihydroindolizidine succinyltransferase, partial (5%), [HIC2819089]   |
| A.22.P00009748 | 14.441 | 3.852 | 14.441 | INC-KIAA1967-2 | up | INC-KIAA1967-2  |
| A.23.P303096   | 14.441 | 3.852 | 14.441 | GDNS           | up | Homo sapiens conserved domain (GDNS), mRNA [NM_001007264]   |
| A.33.P0228370  | 14.365 | 3.845 | 14.365 | ID4            | up | Homo sapiens inhibitor of DNA binding 4, dominant negative helix-loop-helix protein (ID4), mRNA [NM_0010546]                            |

|                |        |       |        |                 |    |        |       |        |  |
|----------------|--------|-------|--------|-----------------|----|--------|-------|--------|--|
| A.21.P0006927  | 14.351 | 3.643 | 14.351 | LIMS3-LOC40895  | up | 14.351 | 3.643 | 14.351 | Homo sapiens LIMS3-LOC40895 readthrough (LIMS3-LOC40895), long non-coding RNA [NR_027145]  |
| A.22.P00023117 | 14.263 | 3.834 | 14.263 | LINC01468       | up | 14.263 | 3.834 | 14.263 | Homo sapiens long intergenic non-protein coding RNA 1488 (LINC01468), transcript variant 1, long non-coding RNA [NR_120841]                    |
| A.22.P00010681 | 14.257 | 3.834 | 14.257 | ZNF365          | up | 14.257 | 3.834 | 14.257 | Homo sapiens zinc finger protein 365 (ZNF365), transcript variant C, mRNA [NM_199451]  |
| A.33.P3242503  | 14.226 | 3.830 | 14.226 | ZNF365          | up | 14.226 | 3.830 | 14.226 | Homo sapiens zinc finger protein 365 (ZNF365), transcript variant C, mRNA [NM_199451]  |
| A.33.P30382100 | 14.172 | 3.825 | 14.172 | IGFN1           | up | 14.172 | 3.825 | 14.172 | Homo sapiens immunoglobulin-like and fibronectin type III domain containing 1 (IGFN1), mRNA [NM_001164598]                                     |
| A.32.P152606   | 14.171 | 3.825 | 14.171 | IGFN1           | up | 14.171 | 3.825 | 14.171 | Homo sapiens immunoglobulin-like and fibronectin type III domain containing 1 (IGFN1), mRNA [NM_001164598]                                     |
| A.24.P303131   | 14.145 | 3.822 | 14.145 | IGFN1           | up | 14.145 | 3.822 | 14.145 | Homo sapiens immunoglobulin-like and fibronectin type III domain containing 1 (IGFN1), mRNA [NM_001164598]                                     |
| A.22.P0131238  | 14.132 | 3.821 | 14.132 | IGFN1           | up | 14.132 | 3.821 | 14.132 | Homo sapiens immunoglobulin-like and fibronectin type III domain containing 1 (IGFN1), mRNA [NM_001164598]                                     |
| A.33.P3232845  | 14.128 | 3.820 | 14.128 | IGFN1           | up | 14.128 | 3.820 | 14.128 | Homo sapiens immunoglobulin-like and fibronectin type III domain containing 1 (IGFN1), mRNA [NM_001164598]                                     |
| A.21.P090450   | 14.125 | 3.820 | 14.125 | PRDM1           | up | 14.125 | 3.820 | 14.125 | Homo sapiens PR domain containing 1, with ZNF domain (PRDM1), transcript variant 1, mRNA [NM_001188]   |
| A.24.P7750     | 14.102 | 3.818 | 14.102 | PRDM1           | up | 14.102 | 3.818 | 14.102 | Homo sapiens PR domain containing 1, with ZNF domain (PRDM1), transcript variant 1, mRNA [NM_001188]   |
| A.23.P130027   | 14.093 | 3.817 | 14.093 | EPN3            | up | 14.093 | 3.817 | 14.093 | Homo sapiens epasin 3 (EPN3), mRNA [NM_017957]   |
| A.22.P00010372 | 14.071 | 3.815 | 14.071 | LINC01460       | up | 14.071 | 3.815 | 14.071 | Homo sapiens long intergenic non-protein coding RNA 1480 (LINC01460), transcript variant 1, long non-coding RNA [NR_120468]                    |
| A.23.P130362   | 14.052 | 3.813 | 14.052 | TEX12           | up | 14.052 | 3.813 | 14.052 | Homo sapiens testis expressed 12 (TEX12), mRNA [NM_031275]   |
| A.23.P139864   | 14.039 | 3.811 | 14.039 | GSG1            | up | 14.039 | 3.811 | 14.039 | Homo sapiens germ cell associated 1 (GSG1), transcript variant 1, mRNA [NM_091289]   |
| A.21.P0011383  | 13.989 | 3.807 | 13.989 | LOG102723946    | up | 13.989 | 3.807 | 13.989 | ZN695 HUMAN (ORF36) Zinc finger protein 695 (Zinc finger protein SBZ(F3)), partial (8%) [TC2841926]  |
| A.24.P34970    | 13.984 | 3.806 | 13.984 | LOG102723946    | up | 13.984 | 3.806 | 13.984 | ZN695 HUMAN (ORF36) Zinc finger protein 695 (Zinc finger protein SBZ(F3)), partial (8%) [TC2841926]  |
| A.21.P0005745  | 13.977 | 3.805 | 13.977 | LOG102723946    | up | 13.977 | 3.805 | 13.977 | ZN695 HUMAN (ORF36) Zinc finger protein 695 (Zinc finger protein SBZ(F3)), partial (8%) [TC2841926]  |
| A.24.P306010   | 13.948 | 3.802 | 13.948 | LOG102723946    | up | 13.948 | 3.802 | 13.948 | ZN695 HUMAN (ORF36) Zinc finger protein 695 (Zinc finger protein SBZ(F3)), partial (8%) [TC2841926]  |
| A.23.P307175   | 13.929 | 3.800 | 13.929 | LOG102723946    | up | 13.929 | 3.800 | 13.929 | ZN695 HUMAN (ORF36) Zinc finger protein 695 (Zinc finger protein SBZ(F3)), partial (8%) [TC2841926]  |
| A.24.P204057   | 13.925 | 3.798 | 13.925 | LOG102723946    | up | 13.925 | 3.798 | 13.925 | ZN695 HUMAN (ORF36) Zinc finger protein 695 (Zinc finger protein SBZ(F3)), partial (8%) [TC2841926]  |
| A.33.P3382723  | 13.880 | 3.785 | 13.880 | LOG102723946    | up | 13.880 | 3.785 | 13.880 | ZN695 HUMAN (ORF36) Zinc finger protein 695 (Zinc finger protein SBZ(F3)), partial (8%) [TC2841926]  |
| A.23.P07661    | 13.887 | 3.784 | 13.887 | COX7A1          | up | 13.887 | 3.784 | 13.887 | Homo sapiens cytochrome c oxidase subunit VIIa polypeptide 1 (mtssd) (Source:HGNC Symbol/AcHGNC:2287) [ENS10000029207]                         |
| A.33.P3358307  | 13.857 | 3.783 | 13.857 | LOG2            | up | 13.857 | 3.783 | 13.857 | Homo sapiens luciferin-rich repeat, LGL family, member 2 (LGL2), mRNA [NM_018176]  |
| A.33.P3179307  | 13.844 | 3.781 | 13.844 | KRT18P12        | up | 13.844 | 3.781 | 13.844 | Homo sapiens mRNA, cDNA DKF26434C107 from clone DKF26434C107 [AL133845]  |
| A.24.P160413   | 13.729 | 3.779 | 13.729 | MTMR9L1P        | up | 13.729 | 3.779 | 13.729 | Homo sapiens myotubularin related protein 9-like, pseudogene (MTMR9L1P), non-coding RNA [NR_028850]  |
| A.33.P3247457  | 13.727 | 3.779 | 13.727 | inc-GIT-5       | up | 13.727 | 3.779 | 13.727 | DPPE2, MOUSE (ORF295) Dipeptidase 2 precursor (Membrane bound dipeptidase 2 (MBD-2), partial (4%)) [TC2640864]                                 |
| A.22.P0004092  | 13.637 | 3.770 | 13.637 | DNEN            | up | 13.637 | 3.770 | 13.637 | Homo sapiens cornifelin (DNEN), mRNA [NM_032498]   |
| A.33.P3411848  | 13.635 | 3.769 | 13.635 | DNEN            | up | 13.635 | 3.769 | 13.635 | Homo sapiens cornifelin (DNEN), mRNA [NM_032498]   |
| A.21.P0010995  | 13.625 | 3.768 | 13.625 | XLOC12102441    | up | 13.625 | 3.768 | 13.625 | BROAD Institute IncRNA (XLOC12102441), IncRNA [TCOONS12_00004725]  |
| A.21.P0013298  | 13.597 | 3.764 | 13.597 | BRAD            | up | 13.597 | 3.764 | 13.597 | myosin, heavy chain 18 pseudogene (Source:HGNC Symbol/AcHGNC:31038) [ENS100000453378]  |
| A.24.P292127   | 13.590 | 3.763 | 13.590 | BRAD            | up | 13.590 | 3.763 | 13.590 | myosin, heavy chain 18 pseudogene (Source:HGNC Symbol/AcHGNC:31038) [ENS100000453378]  |
| A.24.P401801   | 13.525 | 3.758 | 13.525 | LMG7            | up | 13.525 | 3.758 | 13.525 | Keratin 18 pseudogene 40 (Source:HGNC Symbol/AcHGNC:33493) [ENS100000699599]   |
| A.22.P0023255  | 13.508 | 3.758 | 13.508 | LMG7            | up | 13.508 | 3.758 | 13.508 | Keratin 18 pseudogene 40 (Source:HGNC Symbol/AcHGNC:33493) [ENS100000699599]   |
| A.21.P0019453  | 13.502 | 3.755 | 13.502 | LINC-PINT       | up | 13.502 | 3.755 | 13.502 | Homo sapiens long intergenic non-protein coding RNA, p53 induced transcript (LINC-PINT), transcript variant 3, long non-coding RNA [NM_034120] |
| A.24.P42138    | 13.419 | 3.746 | 13.419 | KRT18           | up | 13.419 | 3.746 | 13.419 | Homo sapiens keratin 18, type I, KRT18, transcript variant 1, mRNA [NM_000224]   |
| A.21.P0011946  | 13.397 | 3.744 | 13.397 | LINC00982       | up | 13.397 | 3.744 | 13.397 | MIR4351-1 host gene (non-protein coding) (Source:HGNC Symbol/AcHGNC:35163) [ENS100000605500]   |
| A.21.P0007476  | 13.393 | 3.743 | 13.393 | LINC00982       | up | 13.393 | 3.743 | 13.393 | Homo sapiens long intergenic non-protein coding RNA 592 (LINC00982), long non-coding RNA [ENS100000605500]                                     |
| A.23.P164284   | 13.355 | 3.739 | 13.355 | CLDN7           | up | 13.355 | 3.739 | 13.355 | Homo sapiens claudin 7 (CLDN7), transcript variant 1, mRNA [NM_001307]   |
| A.23.P16469    | 13.284 | 3.732 | 13.284 | PLAUR           | up | 13.284 | 3.732 | 13.284 | Homo sapiens plasminogen activator, urokinase receptor (PLAUR), transcript variant 3, mRNA [NM_001005377]                                      |
| A.21.P0004423  | 13.270 | 3.730 | 13.270 | inc-ARRDC3-1    | up | 13.270 | 3.730 | 13.270 | LINCpedla lincRNA (inc-ARRDC3-1), lincRNA [inc-ARRDC3-1]   |
| A.23.P162759   | 13.195 | 3.722 | 13.195 | HSPBB           | up | 13.195 | 3.722 | 13.195 | Homo sapiens heat shock 29kDa protein B (HSPBB), mRNA [NM_014385]  |
| A.24.P247454   | 13.174 | 3.720 | 13.174 | inc-AL1371451-6 | up | 13.174 | 3.720 | 13.174 | LINCpedla lincRNA (inc-AL1371451-6), lincRNA [inc-AL1371451-6]   |
| A.21.P0008800  | 13.161 | 3.718 | 13.161 | GFRAT1          | up | 13.161 | 3.718 | 13.161 | Homo sapiens GDNF family receptor alpha 1 (GFRAT1), transcript variant 1, mRNA [NM_062264]   |
| A.33.P3033088  | 13.141 | 3.716 | 13.141 | GFRAT1          | up | 13.141 | 3.716 | 13.141 | Homo sapiens GDNF family receptor alpha 1 (GFRAT1), transcript variant 1, mRNA [NM_062264]   |
| A.23.P421316   | 13.129 | 3.714 | 13.129 | GFRAT1          | up | 13.129 | 3.714 | 13.129 | Homo sapiens GDNF family receptor alpha 1 (GFRAT1), transcript variant 1, mRNA [NM_062264]   |
| A.23.P144883   | 13.110 | 3.710 | 13.110 | TEMB3           | up | 13.110 | 3.710 | 13.110 | Homo sapiens telomeric binding protein 3 (TEMB3), mRNA [NM_032268]   |
| A.33.P3248333  | 13.080 | 3.708 | 13.080 | TEMB3           | up | 13.080 | 3.708 | 13.080 | Homo sapiens telomeric binding protein 3 (TEMB3), mRNA [NM_032268]   |
| A.23.P115519   | 13.087 | 3.709 | 13.087 | LCE3D           | up | 13.087 | 3.709 | 13.087 | Homo sapiens late cornified envelope 3D (LCE3D), mRNA [NM_032463]  |
| A.23.P3033991  | 13.076 | 3.708 | 13.076 | LCE3D           | up | 13.076 | 3.708 | 13.076 | Homo sapiens late cornified envelope 3D (LCE3D), mRNA [NM_032463]  |
| A.33.P3389597  | 13.070 | 3.707 | 13.070 | EPASL1          | up | 13.070 | 3.707 | 13.070 | Homo sapiens EPAS1-like 1 (EPASL1), transcript variant 1, mRNA [NM_133180]   |
| A.23.P108157   | 13.061 | 3.707 | 13.061 | TJP3            | up | 13.061 | 3.707 | 13.061 | Homo sapiens tight junction protein 3 (TJP3), transcript variant 1, mRNA [NM_001267560]  |
| A.23.P3214449  | 13.044 | 3.705 | 13.044 | RNF222          | up | 13.044 | 3.705 | 13.044 | Homo sapiens ring finger protein 222 (RNF222), mRNA [NM_001146884]   |
| A.33.P3086659  | 13.042 | 3.705 | 13.042 | ATP9A2          | up | 13.042 | 3.705 | 13.042 | Homo sapiens ATPase, aminophospholipid transporter, class I, type 8A, member 2 (ATP9A2), mRNA [NM_018529]                                      |
| A.21.P0006969  | 13.041 | 3.705 | 13.041 | SFT1A1P         | up | 13.041 | 3.705 | 13.041 | surfactant associated 1, pseudogene (Source:HGNC Symbol/AcHGNC:18359) [ENS10000044919]   |
| A.24.P250663   | 13.030 | 3.704 | 13.030 | SFT1A1P         | up | 13.030 | 3.704 | 13.030 | keratin 18 pseudogene 95 (Source:HGNC Symbol/AcHGNC:46892) [ENS10000043981]  |
| A.33.P3242925  | 13.001 | 3.701 | 13.001 | CHST2           | up | 13.001 | 3.701 | 13.001 | keratin 18 pseudogene 95 (Source:HGNC Symbol/AcHGNC:46892) [ENS10000043981]  |
| A.23.P408447   | 12.981 | 3.698 | 12.981 | CHST2           | up | 12.981 | 3.698 | 12.981 | Homo sapiens carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 2 (CHST2), mRNA [NM_004267]   |
| A.23.P156509   | 12.959 | 3.697 | 12.959 | ENPP1           | up | 12.959 | 3.697 | 12.959 | Homo sapiens ectonucleotide pyrophosphatase, phosphodiesterase 1 (ENPP1), mRNA [NM_002008]   |
| A.23.P156509   | 12.959 | 3.697 | 12.959 | ENPP1           | up | 12.959 | 3.697 | 12.959 | Homo sapiens ectonucleotide pyrophosphatase, phosphodiesterase 1 (ENPP1), mRNA [NM_002008]   |
| A.33.P3245070  | 12.933 | 3.692 | 12.933 | ENPP1           | up | 12.933 | 3.692 | 12.933 | Zinc finger protein 9 (ZNF9), transcript variant 3, mRNA [NM_001014293]  |
| A.33.P309055   | 12.904 | 3.680 | 12.904 | WDFY4           | up | 12.904 | 3.680 | 12.904 | Homo sapiens WDFY family member 4 (WDFY4), mRNA [NM_020345]  |
| A.21.P0010481  | 12.859 | 3.685 | 12.859 | SLC16A8         | up | 12.859 | 3.685 | 12.859 | Homo sapiens solute carrier family 16 member 8 (SLC16A8), mRNA [NM_001242698]  |
| A.33.P3060885  | 12.856 | 3.684 | 12.856 | DNASE1L2        | up | 12.856 | 3.684 | 12.856 | Homo sapiens deoxyribonuclease 1-like 2 (DNASE1L2), transcript variant 1, mRNA [NM_0013174]  |
| A.23.P38443    | 12.823 | 3.681 | 12.823 | ABLIM3          | up | 12.823 | 3.681 | 12.823 | Homo sapiens actin binding LIM protein family, member 3 (ABLIM3), transcript variant 2, mRNA [NM_014645]                                       |
| A.24.P123408   | 12.810 | 3.679 | 12.810 | ABLIM3          | up | 12.810 | 3.679 | 12.810 | Homo sapiens actin binding LIM protein family, member 3 (ABLIM3), transcript variant 2, mRNA [NM_014645]                                       |

|                |        |       |        |  |    |   |
|----------------|--------|-------|--------|--|----|---|
| A.21.P0010836  | 12.782 | 3.676 | 12.82  | ALOC12.015848  | up | BROAD Institute lincRNA (ALOC12.015848), lincRNA [TCONS.0.000306033]  |
| A.23.P118136   | 12.756 | 3.673 | 12.56  | HSS1Z2   | up | Homo sapiens heparan sulfate glucosaminyl 3-O-sulfotransferase 2 (HSS1Z2), mRNA [NM.0000043]  |
| A.23.P04243    | 12.740 | 3.671 | 12.40  | UPK2   | up | Homo sapiens uropodain 2 (UPK2), mRNA [NM.006760]   |
| A.33.P0419671  | 12.725 | 3.670 | 12.295 | ABL2   | up | Homo sapiens ABL proto-oncogene 2, non-receptor tyrosine kinase (ABL2), transcript variant b, mRNA [NM.007314]                      |
| A.23.P0216225  | 12.665 | 3.663 | 12.605 | EGR3   | up | Homo sapiens early growth response 3 (EGR3), transcript variant 1, mRNA [NM.004430]   |
| A.33.P0302826  | 12.652 | 3.661 | 12.651 | PTGR1  | up | Homo sapiens ankyrin repeat domain 31 (ANKRD31), mRNA [NM.001164463]  |
| A.21.P00103192 | 12.619 | 3.658 | 12.619 | ANKR331  | up | Homo sapiens ankyrin repeat domain 31 (ANKRD31), mRNA [NM.001164463]  |
| A.21.P00103192 | 12.613 | 3.657 | 12.613 | linc-ABCD3-2   | up | linc-ABCD3-2  |
| A.33.P0216225  | 12.606 | 3.656 | 12.606 | LOC101929384   | up | Homo sapiens uncharacterized LOC101929384 (LOC101929384), long non-coding RNA [NR.126563]   |
| A.23.P0216225  | 12.584 | 3.642 | 12.584 | LOC101929384   | up | Homo sapiens uncharacterized LOC101929384 (LOC101929384), long non-coding RNA [NR.126563]   |
| A.23.P0216225  | 12.483 | 3.642 | 12.483 | OSBP2  | up | Homo sapiens oxysterol binding protein 2 (OSBP2), transcript variant 1, mRNA [NM.030756]  |
| A.22.P00003849 | 12.472 | 3.641 | 12.472 | EX1 (088689)   | up | BX (088689) Soares,terts.MHT Homo sapiens cDNA clone IMAGE68104184, mRNA sequence [BX.108689]                                       |
| A.33.P0417389  | 12.449 | 3.638 | 12.449 | Keratin 8 pseudogene 44 [Source:HGNC Symbol;Acc:HGNC:38878]  | up | Keratin 8 pseudogene 44 [Source:HGNC Symbol;Acc:HGNC:38878] [ENST00000441609]   |
| A.21.P0001071  | 12.434 | 3.636 | 12.434 | SAPCD2   | up | Homo sapiens suppressor APC domain containing 2 (SAPCD2), mRNA [NM.178448]  |
| A.21.P0002261  | 12.403 | 3.633 | 12.403 | linc-IL1R2-1   | up | linc-IL1R2-1  |
| A.21.P0001927  | 12.385 | 3.631 | 12.385 | LOC101929382   | up | Homo sapiens uncharacterized LOC101929382 (LOC101929382), transcript variant 1, long non-coding RNA [NR.110244]                     |
| A.24.P148717   | 12.344 | 3.626 | 12.344 | CCRI   | up | Homo sapiens chemokine (C-C motif) receptor 1 (CCR1), mRNA [NM.001295]  |
| A.33.P021980   | 12.283 | 3.619 | 12.283 | KRT80  | up | Homo sapiens keratin 80 type II (KRT80), transcript variant 1, mRNA [NM.182927]   |
| A.24.P031704   | 12.267 | 3.617 | 12.267 | linc-ARRDC3-1  | up | linc-ARRDC3-1   |
| A.21.P000422   | 12.263 | 3.616 | 12.263 | linc-ARRDC3-1  | up | linc-ARRDC3-1   |
| A.22.P00015026 | 12.213 | 3.610 | 12.213 | QB5M20.P-SF1 (Q5BM20) 2.4                                    | up | QB5M20.P-SF1 (Q5BM20) 2.4, diethylthiostrepton biosynthetic protein (fragment), partial (8) [THCZ10838]                             |
| A.23.P029975   | 12.185 | 3.607 | 12.185 | C4orf19  | up | Homo sapiens chromosome 4 open reading frame 19 (C4orf19), transcript variant 2, mRNA [NM.00352]                                    |
| A.23.P047482   | 12.172 | 3.605 | 12.172 | CARNE  | up | Homo sapiens carnitin 8 (CARNE), mRNA [NM.00143862]   |
| A.22.P00023323 | 12.172 | 3.605 | 12.172 | linc-ARRDC3-2  | up | linc-ARRDC3-2   |
| A.33.P0325502  | 12.139 | 3.602 | 12.139 | ARRGAP2B   | up | Homo sapiens Rho GTPase activating protein 2B (ARRGAP2B), mRNA [NM.004815]  |
| A.33.P021917   | 12.129 | 3.600 | 12.129 | PBK  | up | Homo sapiens PDZ binding kinase (PBK), transcript variant 1, mRNA [NM.018492]   |
| A.33.P0361388  | 12.094 | 3.596 | 12.094 | MYGBP2P  | up | Homo sapiens MYGBP associated protein (MYGBP2P), mRNA [NM.032131]   |
| A.23.P114847   | 12.092 | 3.596 | 12.092 | RG52   | up | Homo sapiens regulator of G-protein signaling 2 (RG52), mRNA [NM.002923]  |
| A.22.P00025954 | 12.058 | 3.592 | 12.058 | PREDICTED  | up | Homo sapiens uncharacterized LOC101929371 (LOC101929371), long non-coding RNA [NR.126989]   |
| A.21.P0014666  | 12.043 | 3.590 | 12.043 | LOC101928152   | up | Homo sapiens uncharacterized LOC101928152 (LOC101928152), ncRNA [XR.249037]   |
| A.33.P030951   | 12.037 | 3.589 | 12.037 | BNIP1L   | up | Homo sapiens BCL2 adenosine E1B 19kDa interacting protein 3-like (BNIP1L), mRNA [NM.004331]   |
| A.23.P212800   | 12.033 | 3.589 | 12.033 | FGF5   | up | Homo sapiens fibroblast growth factor 5 (FGF5), transcript variant 1, mRNA [NM.004484]  |
| A.22.P00022805 | 12.029 | 3.588 | 12.029 | linc-HNRNP3-2  | up | 603072419F1 NH.MGC.119 Homo sapiens cDNA clone IMAGE5164397.5, mRNA sequence [BB25310]  |
| A.22.P0007780  | 11.994 | 3.584 | 11.994 | linc-HNRNP3-2  | up | linc-HNRNP3-2   |
| A.23.P037038   | 11.985 | 3.583 | 11.985 | KRT18P25   | up | Homo sapiens keratin 18 pseudogene 55 (KRT18P25), non-coding RNA [NR.028334]  |
| A.32.P024234   | 11.981 | 3.583 | 11.981 | LOC3649185   | up | Homo sapiens cDNA FLJ14146.fts, clone BRIS12021230, AKI124350 [LOC3649185]  |
| A.33.P0220688  | 11.971 | 3.583 | 11.971 | EPSSB1   | up | ENS0000030762 (EPSSB1) host gene (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:35160]   |
| A.33.P0401937  | 11.957 | 3.579 | 11.957 | PLCXD1   | up | Homo sapiens phosphatidylinositol-specific phospholipase C, X domain containing 1 (PLCXD1), transcript variant 1, mRNA [NM.018390]  |
| A.23.P068779   | 11.948 | 3.579 | 11.948 | ZNF114   | up | Homo sapiens zinc finger protein 114 (ZNF114), transcript variant 1, mRNA [NM.153688]   |
| A.23.P131435   | 11.912 | 3.574 | 11.912 | CD302  | up | Homo sapiens CD302 molecule (CD302), transcript variant 1, mRNA [NM.014880]   |
| A.23.P108265   | 11.889 | 3.573 | 11.889 | ORTC2  | up | Homo sapiens olfactory receptor, family 7, subfamily C, member 2 (ORTC2), mRNA [NM.012377]  |
| A.23.P074844   | 11.877 | 3.570 | 11.877 | GAL  | up | Homo sapiens galactin/GM1P prepropeptide (GAL), mRNA [NM.015973]  |
| A.24.P04402    | 11.868 | 3.569 | 11.868 | MYON   | up | Homo sapiens v-myb avian myeloblastosis viral oncogene neuroblastoma derived homolog (MYCN), transcript variant 2, mRNA [NM.005378] |
| A.24.P089738   | 11.864 | 3.568 | 11.864 | GALNT5   | up | Homo sapiens polypeptide N-acetylglucosaminyltransferase 5 (GALNT5), mRNA [NM.014688]   |
| A.33.P024235   | 11.780 | 3.558 | 11.780 | AFF1   | up | AF4-FMR2 family, member 1 [Source:HGNC Symbol;Acc:HGNC:7195] [ENST00000004956]  |
| A.24.P076047   | 11.764 | 3.556 | 11.764 | KLK4   | up | Homo sapiens kallikrein-related peptidase 4 (KLK4), transcript variant 1, mRNA [NM.004917]  |
| A.23.P070882   | 11.754 | 3.555 | 11.754 | BATF2  | up | Homo sapiens basic leucine zipper transcription factor, ATF-like 2 (BATF2), transcript variant 1, mRNA [NM.138456]                  |
| A.21.P0010816  | 11.751 | 3.555 | 11.751 | C4orf19  | up | ATPase, aminophospholipid transporter, class I, type 8A, member 2 pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:38692] [ENS0000042463]  |
| A.23.P14079    | 11.739 | 3.553 | 11.739 | GFB  | up | Homo sapiens keratin 8, type II (KRT8), transcript variant 2, mRNA [NM.002973]  |
| A.32.P027033   | 11.732 | 3.552 | 11.732 | YGF  | up | Homo sapiens YGF, secretory granule protein fraction protein (YGF), mRNA [NM.003261]  |
| A.33.P0419209  | 11.718 | 3.551 | 11.718 | TGEB1  | up | Homo sapiens MDR1-like like 1 (with EGF-like repeat domains) (TGEB1), transcript variant 1, cDNA [NM.004791]                        |
| A.32.P198984   | 11.704 | 3.549 | 11.704 | ABL2   | up | Homo sapiens ABL proto-oncogene 2, non-receptor tyrosine kinase (ABL2), transcript variant b, mRNA [NM.007314]                      |
| A.33.P026804   | 11.656 | 3.543 | 11.656 | LIMS2  | up | Homo sapiens LIM and aneuploid cell antigen-like domain 2 (LIMS2), transcript variant 5, mRNA [NM.00161404]                         |
| A.22.P0416161  | 11.613 | 3.538 | 11.613 | XKRX   | up | Homo sapiens XK, Kall blood group complex subunit-related, X-linked (XKRX), mRNA [NM.212559]  |
| A.21.P0002769  | 11.605 | 3.537 | 11.605 | GLOV   | up | GLOV46 GLOV (GLOV46) Cytochrome c550, partial (8) [THC27113]  |
| A.24.P510317   | 11.605 | 3.537 | 11.605 | linc-ABCD3-2   | up | linc-ABCD3-2  |
| A.33.P0461416  | 11.570 | 3.532 | 11.570 | GP6  | up | Homo sapiens glycoprotein VI (GP6) (GP6), transcript variant 1, mRNA [NM.001083939]   |
| A.23.P102242   | 11.565 | 3.531 | 11.565 | 7-Ma   | up | Homo sapiens membrane-associated ring finger (GRH) 4, E3 ubiquitin protein ligase (MARCKH7), transcript variant 2, mRNA [NM.022926] |
| A.21.P0002216  | 11.546 | 3.529 | 11.546 | linc-ANKRD10-1   | up | linc-ANKRD10-1  |
| A.21.P0004506  | 11.537 | 3.528 | 11.537 | linc-SHEK1-1   | up | linc-SHEK1-1  |
| A.22.P00000614 | 11.536 | 3.528 | 11.536 | CKMT2-AS1  | up | Homo sapiens CKMT2 antisense RNA 1 (CKMT2-AS1), transcript variant 3, long non-coding RNA [NR.034728]                               |
| A.33.P0261292  | 11.520 | 3.526 | 11.520 | GNAI1B7B   | up | Homo sapiens family with GTPase, stalk-like, 187 member B (FAM187B), mRNA [NM.032648]   |
| A.24.P416465   | 11.520 | 3.526 | 11.520 | KLK13  | up | Homo sapiens kallikrein-related peptidase 13 (KLK13), mRNA [NM.015564]  |
| A.32.P128845   | 11.490 | 3.522 | 11.490 | YOD1   | up | Homo sapiens YOD1 disubstituted (YOD1), transcript variant 1, mRNA [NM.018666]  |
| A.22.P131031   | 11.468 | 3.518 | 11.468 | MACCI1   | up | Homo sapiens metastasis associated in colon cancer 1 (MACCI1), mRNA [NM.182782]   |
| A.22.P00015305 | 11.446 | 3.517 | 11.446 | SPFNK7   | up | Homo sapiens serine peptidase inhibitor, Kazal type 7 (putative) (SPFNK7), mRNA [NM.032666]   |
| A.23.P140434   | 11.446 | 3.517 | 11.446 | MYO5C  | up | Homo sapiens myosin VC (MYO5C), mRNA [NM.018728]  |
| A.33.P0366391  | 11.435 | 3.515 | 11.435 | keratin 18 pseudogene 59 [Source:HGNC Symbol;Acc:HGNC:48886] | up | keratin 18 pseudogene 59 [Source:HGNC Symbol;Acc:HGNC:48886] [ENST00000034798]  |

|                |        |       |        |  |    |   |
|----------------|--------|-------|--------|--|----|---|
| A.22.P00017002 | 11.426 | 3.514 | 11.426 | LINC00113  | up | Homo sapiens long intergenic non-protein coding RNA 113 [LINC00113], long non-coding RNA [NR_024357]  |
| A.33.P3002320  | 11.412 | 3.512 | 11.412 | LINC01251  | up | Homo sapiens long intergenic non-protein coding RNA 1251 [LINC01251], long non-coding RNA [NR_109759]   |
| A.33.P3029254  | 11.397 | 3.511 | 11.397 | GFPM1  | up | Homo sapiens G-protein signaling modulator 1 (GFPM1), transcript variant 2, mRNA [NM_015597]  |
| A.24.P171908   | 11.335 | 3.503 | 11.335 | RASSF5   | up | Homo sapiens Ras association (RasGDS/AF-6) domain family member 5 (RASSF5), transcript variant 1, mRNA [NM_182663]                                    |
| A.23.P85018    | 11.323 | 3.501 | 11.323 | TGM1   | up | Homo sapiens transferrinase 1 (TGM1), mRNA [NM_000939]  |
| A.33.P3215243  | 11.322 | 3.501 | 11.322 | FLC2   | up | GWIP53 OCHON (GWIP53) NADH dehydrogenase subunit 2, partial, (S), [LOC2801170]  |
| A.33.P3201080  | 11.309 | 3.489 | 11.309 | PL2  | up | Homo sapiens fibroblast growth factor 2 (FGF2), mRNA [NM_001074342]   |
| A.21.P300598   | 11.288 | 3.484 | 11.288 | STAF1P   | up | Homo sapiens serafin-associated 1, putative, mRNA [NM_0217092]  |
| A.23.P149128   | 11.286 | 3.484 | 11.286 | EP4  | up | Homo sapiens epidermal growth factor receptor tyrosine kinase 2 (EGFR), mRNA [NM_021189]  |
| A.23.P61180    | 11.190 | 3.484 | 11.190 | PLCXD1   | up | Homo sapiens pleckstrin domain containing phosphatase C, X domain containing 1 (PLCXD1), transcript variant 1, mRNA [NM_018396]                       |
| A.21.P0010550  | 11.183 | 3.483 | 11.183 | XLOC_02.000384   | up | BROAD Institute lincRNA XLOC_02.000384, lincRNA [CONS_2_0000957]  |
| A.21.P0020616  | 11.179 | 3.483 | 11.179 | linc-TNFAIP2-2   | up | LINGeedia lincRNA (linc-TNFAIP2-2), lincRNA [linc-TNFAIP2-2]  |
| A.33.P342462   | 11.175 | 3.482 | 11.175 | GNST   | up | Homo sapiens gonadotropin-releasing hormone receptor, G-protein-coupled receptor, variant 2, mRNA [NM_001139459]                                      |
| A.23.P365218   | 11.064 | 3.468 | 11.064 | GPRI10   | up | Homo sapiens G-protein-coupled receptor 110 (GPRI10), transcript variant 2, mRNA [NM_0250048]   |
| A.23.P19724    | 11.044 | 3.465 | 11.044 | CPA4   | up | Homo sapiens carboxypeptidase A4 (CPA4), transcript variant 1, mRNA [NM_016352]   |
| A.33.P3311468  | 11.022 | 3.462 | 11.022 | TRHDE-AS1  | up | Homo sapiens TRHDE antisense RNA 1 (TRHDE-AS1), transcript variant 1, long non-coding RNA [NR_028837]   |
| A.33.P3316861  | 11.019 | 3.462 | 11.019 | EFZF7  | up | Homo sapiens E2F transcription factor 7 (EFZF7), mRNA [NM_2039394]  |
| A.23.P85765    | 11.018 | 3.462 | 11.018 | CA2NA1S  | up | Homo sapiens calcium channel, voltage-dependent, L type, alpha 1S subunit (CACNA1S), mRNA [NM_000698]   |
| A.23.P81487    | 10.992 | 3.458 | 10.992 | LINC220  | up | Homo sapiens leucine rich repeat containing 20 (LINC220), transcript variant 3, mRNA [NM_018205]  |
| A.21.P000442   | 10.985 | 3.457 | 10.985 | linc-C5orf83-2   | up | LINGeedia lincRNA (linc-C5orf83-2), lincRNA [linc-C5orf83-2]  |
| A.23.P78980    | 10.969 | 3.455 | 10.969 | B3GNT3   | up | Homo sapiens UDP-GlcNAc 6-epimerase beta-1-3-N-acetylglucosaminyltransferase 3 (B3GNT3), mRNA [NM_014286]   |
| A.22.P00012000 | 10.945 | 3.452 | 10.945 | LCE1A  | up | Homo sapiens late coagulated envelope 1A (LCE1A), mRNA [NM_178348]  |
| A.23.P404655   | 10.928 | 3.450 | 10.928 | TRIP13   | up | Homo sapiens thyroid hormone receptor interactor 13 (TRIP13), transcript variant 1, mRNA [NM_004237]  |
| A.33.P3339212  | 10.925 | 3.450 | 10.925 | GBA  | up | Homo sapiens glucosylase, beta, acid (GBA), transcript variant 2, mRNA [NM_01005741]  |
| A.23.P201035   | 10.881 | 3.445 | 10.881 | GBA  | up | Keratin 9 pseudogene 15 [Source:HGNC Symbol:HGNC:33367] [ENS:00000492928]   |
| A.33.P3030430  | 10.880 | 3.444 | 10.880 | FAM25A   | up | Homo sapiens family with sequence similarity 25, member A (FAM25A), mRNA [NM_001146157]   |
| A.21.P0010942  | 10.875 | 3.443 | 10.875 | GRAPL  | up | Homo sapiens keratin 23 type I (KRT23), transcript variant 1, mRNA [NM_011515]  |
| A.33.P2919761  | 10.821 | 3.436 | 10.821 | NLRP10   | up | Homo sapiens NLR family, pyrin domain containing 10 (NLRP10), mRNA [NM_178821]  |
| A.23.P403488   | 10.807 | 3.434 | 10.807 | CLDN4  | up | Homo sapiens claudin 4 (CLDN4), mRNA [NM_001395]  |
| A.33.P328545   | 10.805 | 3.434 | 10.805 | CLDN4  | up | long intergenic non-protein coding RNA 152 [Source:HGNC Symbol:HGNC:28717] [ENS:00000437561]  |
| A.21.P0012080  | 10.800 | 3.433 | 10.800 | PREDICTED_Homo sapiens putative ubiquitin-like protein FUBI-like protein ENSP00000310146-like (LOC10192789), transcript variant X1, mRNA [XM_00524417] |    |   |
| A.33.P3328410  | 10.777 | 3.430 | 10.777 | LINC00707  | up | Homo sapiens long intergenic non-protein coding RNA 707 (LINC00707), long non-coding RNA [NR_032921]  |
| A.21.P0007044  | 10.758 | 3.427 | 10.758 | ABHD12B  | up | PREDICTED_Homo sapiens uncharacterized LOC100506411 (LOC100506411), transcript variant 2, cDNA [XZ_245738]  |
| A.33.P3315888  | 10.735 | 3.424 | 10.735 | LOC100506411   | up | Homo sapiens keratin 7, type II (KRT7), mRNA [NM_005556]  |
| A.19.P0007053  | 10.717 | 3.422 | 10.717 | KRT7   | up | BROAD Institute lincRNA XLOC_02.000203, lincRNA [CONS_2_00014753]   |
| A.23.P3350748  | 10.712 | 3.421 | 10.712 | XLOC_02.000203   | up | Homo sapiens GRB2-related adaptor protein-like (GRAPL), mRNA [NM_001129778]   |
| A.21.P0011949  | 10.696 | 3.419 | 10.696 | GRAPL  | up | Homo sapiens non-specific cytotoxic cell receptor protein 1 homolog (NCRP1), mRNA [NM_001001414]  |
| A.24.P309355   | 10.613 | 3.408 | 10.613 | NCRP1  | up | Homo sapiens olfactory receptor, family 10, subfamily A, member 6 (gene/pseudogene) (OR10A6), mRNA [NM_001004481]                                     |
| A.33.P341477   | 10.584 | 3.404 | 10.584 | OR10A6   | up | LINGeedia lincRNA (linc-EG02-2), lincRNA [linc-EG02-2]  |
| A.33.P3419227  | 10.555 | 3.400 | 10.555 | EG02-2   | up | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif, 9 (ADAMTS9), mRNA [NM_189290]   |
| A.21.P0005154  | 10.550 | 3.389 | 10.550 | ADAMTS9  | up | Homo sapiens glucosylase, beta, acid pseudogene 1 (GBAP1), non-coding RNA [NR_002188]   |
| A.32.P186283   | 10.528 | 3.396 | 10.528 | GBAP1  | up | microRNA 29b-1 [Source:HGNC Symbol:HGNC:31819] [ENS:0000452045]   |
| A.32.P512061   | 10.500 | 3.382 | 10.500 | CGA  | up | Homo sapiens glycoprotein hormones, alpha polypeptide (CGA), transcript variant 2, mRNA [NM_007358]   |
| A.33.P3373911  | 10.491 | 3.381 | 10.491 | CGA  | up | Homo sapiens myosin repeat domain 2 (stretch responsive muscle) (ANKRD2), transcript variant 1, mRNA [NM_001291218]                                   |
| A.23.P42386    | 10.489 | 3.391 | 10.489 | ANKRD2   | up | Homo sapiens Pim-1 proto-oncogene, serine/threonine kinase (PIM1), transcript variant 1, mRNA [NM_002648]   |
| A.33.P3278382  | 10.478 | 3.389 | 10.478 | PIM1   | up | UT-HF-ES2-wr-4-14-C-U1-1 NH1-MGC 213 Homo sapiens cDNA clone IMAGE30581781_5, mRNA sequence [CF_30727]  |
| A.23.P34518    | 10.421 | 3.381 | 10.421 | ANKLN  | up | Homo sapiens anillin, actin binding protein (ANKLN), transcript variant 1, mRNA [NM_018885]   |
| A.21.P0000720  | 10.408 | 3.380 | 10.408 | TSPAN1   | up | Homo sapiens tetraspanin 1 (TSPAN1), mRNA [NM_006727]   |
| A.23.P356684   | 10.399 | 3.378 | 10.399 | CSRP1  | up | Homo sapiens cysteine-serine-rich nuclear protein 1 (CSRP1), mRNA [NM_033027]   |
| A.23.P180167   | 10.380 | 3.377 | 10.380 | CGN  | up | Homo sapiens cingulin (CGN), mRNA [NM_020770]   |
| A.23.P3224070  | 10.370 | 3.374 | 10.370 | KLK13  | up | Homo sapiens kallikrein-related peptidase 13 (KLK13), mRNA [NM_015596]  |
| A.33.P328974   | 10.340 | 3.370 | 10.340 | HCG9   | up | Homo sapiens H1A complex group 9 (non-protein coding) (HCG9), long non-coding RNA [NR_028032]   |
| A.24.P3338974  | 10.323 | 3.368 | 10.323 | IL1F10   | up | Homo sapiens interleukin 1 family, member 10 (beta) (IL1F10), transcript variant 1, mRNA [NM_029595]  |
| A.22.P0000304  | 10.319 | 3.367 | 10.319 | ATP12A   | up | Homo sapiens ATPase, H <sup>+</sup> -K <sup>+</sup> transporting, noncatalytic, alpha polypeptide (ATP12A), transcript variant 2, mRNA [NM_001070100] |
| A.23.P501713   | 10.312 | 3.366 | 10.312 | GM   | up | Homo sapiens gamma globulin (GM), mRNA [NM_003300]  |
| A.23.P87982    | 10.310 | 3.366 | 10.310 | INSC   | up | Homo sapiens interstitial fibroblast (INSC), transcript variant 1, mRNA [NM_001031853]  |
| A.23.P161140   | 10.284 | 3.362 | 10.284 | ROBO4  | up | Homo sapiens roundabout, semaphorin receptor, homolog 4 (Robo4), transcript variant 1, mRNA [NM_019095]   |
| A.33.P3814721  | 10.241 | 3.356 | 10.241 | CAPN6  | up | capain 6 [Source:HGNC Symbol:HGNC:1486] [ENS:00000336873]   |
| A.23.P444421   | 10.225 | 3.354 | 10.225 | MUC20  | up | Homo sapiens mucin 20, cell surface associated (MUC20), transcript variant S, mRNA [NM_001098516]   |
| A.33.P3842752  | 10.215 | 3.353 | 10.215 |  | up |   |
| A.33.P3226775  | 10.191 | 3.349 | 10.191 |  | up |   |



|                |        |       |        |              |   |
|----------------|--------|-------|--------|--------------|---|
| A.23.P16426    | 10.191 | 3.349 | 10.191 | GRB14        | Homo sapiens growth factor receptor-bound protein 14 (GRB14), transcript variant 1, mRNA [NM_004490]  |
| A.33.P02040B   | 10.188 | 3.349 | 10.188 | ATG9B        | autophagy-related 9B [Source:HGNC Symbol;Acc:HGNC:21899] [ENST00000404733]  |
| A.22.P000376B  | 10.178 | 3.347 | 10.178 | ATG9B        | Homo sapiens autophagy-related 9B (ATG9B), transcript variant 1, mRNA [NM_173681]   |
| A.23.P08650    | 10.157 | 3.344 | 10.157 | BLM          | Homo sapiens Bloom syndrome RecQ helicase-like (BLM), transcript variant 1, mRNA [NM_000057]  |
| A.23.P0740B2   | 10.157 | 3.344 | 10.157 | ADAM19       | Homo sapiens ADAM metalloproteinase domain 19 (ADAM19), mRNA [NM_033274]  |
| A.22.P000016.0 | 10.150 | 3.343 | 10.150 | UBI3         | Homo sapiens Williams Beuren syndrome chromosome region 27 (WBSCR27), mRNA [NM_125599]  |
| A.23.P081027   | 10.140 | 3.342 | 10.140 | UBI3         | Homo sapiens ubiquitin-like 3 (UBI3), mRNA [NM_007106]  |
| A.33.P027459   | 10.103 | 3.337 | 10.103 | inc-ESRP2-1  | lncRNA [inc-ESRP2-1], lncRNA [inc-ESRP2-1.1] [ENST00000466701]  |
| A.33.P027459   | 10.088 | 3.332 | 10.088 | inc-ESRP2-1  | lncRNA [inc-ESRP2-1], lncRNA [inc-ESRP2-1.1] [ENST00000466701]  |
| A.21.P001024B1 | 10.033 | 3.322 | 10.033 | CFLAR        | lncRNA [inc-ESRP2-1], lncRNA [inc-ESRP2-1.1] [ENST00000466701]  |
| A.21.P001024B  | 10.032 | 3.322 | 10.032 | CFLAR        | lncRNA [inc-ESRP2-1], lncRNA [inc-ESRP2-1.1] [ENST00000466701]  |
| A.23.P099394   | 9.947  | 3.314 | 9.947  | SDA1         | SDA1 domain containing 1 pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:31408] [ENST00000519902]   |
| A.21.P001350.0 | 9.933  | 3.312 | 9.933  | RHOE         | Homo sapiens ras homolog family member F (in fibroblast) (RHOE), mRNA [NM_014603]   |
| A.24.P104119   | 9.927  | 3.311 | 9.927  | RFAM2A       | Homo sapiens family with sequence similarity 28, member A (RFAM2A), mRNA [NM_001146157]   |
| A.22.P04138    | 9.910  | 3.309 | 9.910  | HSB3B1       | Homo sapiens hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 1 (HSB3B1), mRNA [NM_000862]                              |
| A.24.P036397   | 9.896  | 3.307 | 9.896  | AZGP1P1      | Homo sapiens alpha-2-glycoprotein 1, zinc-binding pseudogene 1 (AZGP1P1), non-coding RNA [RF_036676]  |
| A.33.P026283B  | 9.854  | 3.301 | 9.854  | LINC00704    | Homo sapiens long intergenic non-protein coding RNA 704 (LINC00704), long non-coding RNA [RF_024745]  |
| A.33.P0339070  | 9.848  | 3.300 | 9.848  | inc-LPA-1    | lncRNA [inc-LPA-1], lncRNA [inc-LPA-1.1] [ENST00000466701]  |
| A.21.P0005079  | 9.838  | 3.288 | 9.838  | DNAJB5       | Homo sapiens DnaJ (Hsp40) homolog, subfamily B, member 5 (DNAJB5), transcript variant 1, mRNA [NM_001330005]                                      |
| A.33.P0368317  | 9.825  | 3.287 | 9.825  | LOC101928461 | Homo sapiens uncharacterized LOC101928461 (LOC101928461), long non-coding RNA [NR_128568]   |
| A.22.P00209772 | 9.814  | 3.285 | 9.814  | KIRREL3      | Homo sapiens uncharacterized LOC101928461 (LOC101928461), long non-coding RNA [NR_128568]   |
| A.21.P046209   | 9.770  | 3.280 | 9.770  | GELE         | Homo sapiens uncharacterized LOC101928461 (LOC101928461), long non-coding RNA [NR_128568]   |
| A.23.P104341   | 9.763  | 3.280 | 9.763  | CCDC147-AS1  | Homo sapiens uncharacterized LOC101928461 (LOC101928461), long non-coding RNA [NR_128568]   |
| A.33.P0213333  | 9.762  | 3.281 | 9.762  | CCDC147-AS1  | Homo sapiens uncharacterized LOC101928461 (LOC101928461), long non-coding RNA [NR_128568]   |
| A.21.P0006788  | 9.720  | 3.281 | 9.720  | SERPINA9     | Homo sapiens serpin peptidase inhibitor, clade A (alpha-1 antitrypsin, antithrypsin), member 9 (SERPINA9), transcript variant 1, mRNA [NM_175739] |
| A.23.P07278    | 9.713  | 3.280 | 9.713  | LINC01214    | Homo sapiens long intergenic non-protein coding RNA 1214 (LINC01214), transcript variant 1, long non-coding RNA [NR_110186]                       |
| A.21.P0017465  | 9.689  | 3.278 | 9.689  | PPDK4        | Homo sapiens pyruvate dehydrogenase kinase, isozyme 4 (PPDK4), mRNA [NM_002612]   |
| A.24.P243749   | 9.677  | 3.275 | 9.677  | MACAD        | Homo sapiens uncharacterized LOC101928461 (LOC101928461), long non-coding RNA [NR_128568]   |
| A.21.P0001826  | 9.674  | 3.274 | 9.674  | RR22         | Homo sapiens uncharacterized LOC101928461 (LOC101928461), long non-coding RNA [NR_128568]   |
| A.23.P09338    | 9.658  | 3.272 | 9.658  | KRT18        | Homo sapiens keratin 18, type I (KRT18), transcript variant 1, mRNA [NM_00191398]   |
| A.33.P088485   | 9.650  | 3.271 | 9.650  | C2orf54      | Homo sapiens keratin 18, type I (KRT18), transcript variant 1, mRNA [NM_00191398]   |
| A.32.P151544   | 9.644  | 3.270 | 9.644  | LOC10228975  | Homo sapiens keratin 18, type I (KRT18), transcript variant 1, mRNA [NM_00191398]   |
| A.23.P06989    | 9.637  | 3.269 | 9.637  | KIFC3        | Homo sapiens chromosome 2 open reading frame 94 (C2orf94), transcript variant 2, mRNA [NR_103791]   |
| A.33.P032019   | 9.633  | 3.268 | 9.633  | LOC10228975  | Homo sapiens chromosome 2 open reading frame 94 (C2orf94), transcript variant 2, mRNA [NR_103791]   |
| A.21.P0011833  | 9.614  | 3.265 | 9.614  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P04576    | 9.613  | 3.265 | 9.613  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.21.P0004969  | 9.602  | 3.263 | 9.602  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.22.P00013604 | 9.593  | 3.260 | 9.593  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P029862   | 9.577  | 3.260 | 9.577  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.33.P0268310  | 9.546  | 3.255 | 9.546  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.24.P013418   | 9.542  | 3.254 | 9.542  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P070719   | 9.518  | 3.251 | 9.518  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.33.P0275846  | 9.515  | 3.250 | 9.515  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.22.P00014044 | 9.482  | 3.245 | 9.482  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.21.P02148291 | 9.470  | 3.243 | 9.470  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.22.P053509   | 9.462  | 3.242 | 9.462  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.19.P00327648 | 9.453  | 3.241 | 9.453  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.21.P0011649  | 9.437  | 3.238 | 9.437  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.21.P0005774  | 9.418  | 3.235 | 9.418  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.24.P034715   | 9.385  | 3.230 | 9.385  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P076764   | 9.385  | 3.230 | 9.385  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P04567    | 9.387  | 3.228 | 9.387  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P011895   | 9.360  | 3.225 | 9.360  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.33.P0210601  | 9.353  | 3.225 | 9.353  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.24.P086761   | 9.347  | 3.225 | 9.347  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P10083    | 9.319  | 3.220 | 9.319  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P124417   | 9.314  | 3.219 | 9.314  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P076749   | 9.309  | 3.219 | 9.309  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P416174   | 9.297  | 3.217 | 9.297  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.19.P00318759 | 9.283  | 3.215 | 9.283  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.33.P0320397  | 9.276  | 3.214 | 9.276  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.23.P18751    | 9.275  | 3.213 | 9.275  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |
| A.22.P0008684  | 9.255  | 3.210 | 9.255  | LOC10127     | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_103791]   |

|                 |       |       |       |  |    |  |
|-----------------|-------|-------|-------|--|----|--|
| A.21.P0005417   | 9.211 | 3.203 | 9.211 | LOC100862649                               | up | Homo sapiens uncharacterized LOC100862649 (LOC1009096249), transcript variant 1, long non-coding RNA [NM.110159]                           |
| A.22.P0001119   | 9.182 | 3.189 | 9.182 | lnc-NUFIP2-1                               | up | LINCEDIA lincRNA (lnc-NUFIP2-1), lincRNA [lnc-NUFIP2-1.1]  |
| A.33.P395120    | 9.177 | 3.188 | 9.177 | TXNRD1                                     | up | Homo sapiens thioredoxin reductase 1 (TXNRD1), transcript variant 6, mRNA [NM.001281445]   |
| A.23.P121011    | 9.169 | 3.187 | 9.169 | GSNRP1                                     | up | Homo sapiens cysteine-serine-rich nuclear protein 1 (GSNRP1), mRNA [NM.0330277]  |
| A.23.P163902    | 9.137 | 3.192 | 9.137 | GRB7                                       | up | Homo sapiens growth factor receptor-bound protein 7 (GRB7), transcript variant 1, mRNA [NM.005310]   |
| A.22.P00022689  | 9.134 | 3.181 | 9.134 | SLC24A3                                    | up | DNA72297 DFNE52 Homo sapiens cDNA clone DFNE52000144.5, mRNA sequence [DNA72297]   |
| A.24.P400386    | 9.111 | 3.188 | 9.111 | SLC24A3                                    | up | Homo sapiens solute carrier family 4, member 3 (SLC24A3), transcript variant 3, mRNA [NM.199329]   |
| A.22.P00022280  | 9.107 | 3.187 | 9.107 | lnc-DNITIP2-1                              | up | Homo sapiens DNITIP2 duplicated region transcript, 1 (DNITIP2), transcript variant 1, mRNA [NM.006382]                                     |
| A.19.P00250182  | 9.079 | 3.163 | 9.079 | CDRT1                                      | up | Homo sapiens CDRT1, transcript variant 1, mRNA [NM.006382]   |
| A.33.P3249071   | 9.076 | 3.182 | 9.076 | MME  | up | Homo sapiens metallo-matrix-metalloproteinase (MME), transcript variant 2b, mRNA [NM.007289]   |
| A.23.P313388    | 9.043 | 3.177 | 9.043 | UGCG                                       | up | Homo sapiens UDP-glucose ceramide glucosyltransferase (UGCG), mRNA [NM.003388]   |
| A.21.P0014201   | 9.040 | 3.176 | 9.040 | LINC00113                                  | up | Homo sapiens long intergenic non-protein coding RNA 118 (LINC00113), long non-coding RNA [NR.024357]                                       |
| A.21.P0010131   | 9.038 | 3.176 | 9.038 | CCRL2                                      | up | Homo sapiens chemokine (C-C motif) receptor-like 2 (CCRL2), transcript variant 1, mRNA [NM.003965]   |
| A.23.P08310     | 9.023 | 3.174 | 9.023 | long intergenic non-protein coding RNA 385 | up | long intergenic non-protein coding RNA 385 [Source:HGNC Symbol;Acc:HGNC:42867] [ENS:TM000041358.1]   |
| A.21.P0007913   | 9.014 | 3.172 | 9.014 | UBE2H                                      | up | Homo sapiens ubiquitin-conjugating enzyme E2H (UBE2H), transcript variant 1, mRNA [NM.003344]  |
| A.23.P14584     | 9.008 | 3.170 | 9.008 | ADRF                                       | up | Homo sapiens adrenergic regulatory factor (ADRF), mRNA [NM.006929]   |
| A.23.P161439    | 9.004 | 3.170 | 9.004 | AT19B1                                     | up | ataphay related 9B [Source:HGNC Symbol;Acc:HGNC:27899] [ENS:TM000047179.7]   |
| A.33.P0702419   | 8.994 | 3.184 | 8.994 | RNF223                                     | up | Homo sapiens ring finger protein 223 (RNF223), mRNA [NM.001295292]   |
| A.21.P0000163   | 8.993 | 3.164 | 8.993 | YSG1L1                                     | up | Homo sapiens Y-sect and immunoglobulin domain containing 1 (like YSG1L1), mRNA [NM.001163922]  |
| A.33.P3392846   | 8.959 | 3.163 | 8.959 | SH3BP2                                     | up | Homo sapiens SH3 domain containing 2 (SH3BP2), transcript variant 1, mRNA [NM.0020277]   |
| A.21.P0000097   | 8.916 | 3.156 | 8.916 | SH3BP2                                     | up | Homo sapiens SH3 domain containing 2 (SH3BP2), transcript variant 2, mRNA [NM.0020277]   |
| A.21.P046689    | 8.916 | 3.156 | 8.916 | SH3BP2                                     | up | Homo sapiens SH3 domain containing 2 (SH3BP2), transcript variant 3, mRNA [NM.0020277]   |
| A.22.P038380    | 8.903 | 3.154 | 8.903 | GP5A1                                      | up | Homo sapiens G-protein signaling modulator 1 (GPSM1), transcript variant 1, mRNA [NM.001146188]  |
| A.22.P215938    | 8.891 | 3.154 | 8.891 | GP5A1                                      | up | Homo sapiens chromosome 1 open reading frame 228 (C1orf228), transcript variant 1, mRNA [NM.001139240]                                     |
| A.24.P025737    | 8.883 | 3.151 | 8.883 | LOC100617406                               | up | Homo sapiens uncharacterized LOC100617406 (LOC100907406), transcript variant 1, long non-coding RNA [NR.121618]                            |
| A.21.P0014516   | 8.877 | 3.150 | 8.877 | PCDH1                                      | up | Homo sapiens protocadherin 1 (PCDH1), transcript variant 1, mRNA [NM.002387]   |
| A.33.P2348827   | 8.869 | 3.149 | 8.869 | MRV1                                       | up | Homo sapiens murine retrovirus integration site 1 homolog (MRV1), transcript variant 2, mRNA [NM.130385]                                   |
| A.33.P3811403   | 8.869 | 3.149 | 8.869 | MRV1                                       | up | Homo sapiens murine retrovirus integration site 1 homolog (MRV1), transcript variant 1, mRNA [NM.130385]                                   |
| A.33.P3379273   | 8.851 | 3.146 | 8.851 | SLC15A1                                    | up | Homo sapiens solute carrier family 15 (oligopeptide transporter), member 1 (SLC15A1), mRNA [NM.005073]                                     |
| A.33.P393766    | 8.798 | 3.137 | 8.798 | SH2D2                                      | up | Homo sapiens chromosome 17 open reading frame 96 (C17orf96), mRNA [NM.001139877]   |
| A.23.P251259    | 8.795 | 3.137 | 8.795 | SH2D2                                      | up | Homo sapiens synuclein, gamma, breast cancer-specific protein 1 (SH2D2), transcript variant 1, mRNA [NM.029595]                            |
| A.23.P163372    | 8.779 | 3.134 | 8.779 | FOXM1                                      | up | Homo sapiens forkhead box M1 (FOXM1), transcript variant 1, mRNA [NM.002082]   |
| A.23.P151150    | 8.774 | 3.133 | 8.774 | FOXM1                                      | up | Homo sapiens forkhead box M1 (FOXM1), transcript variant 2, mRNA [NM.001355]   |
| A.23.P294292    | 8.746 | 3.132 | 8.746 | lnc-PRKAG2                                 | up | Homo sapiens cDNA FL38515.1f, clone P1AEN100288, LINC008384  |
| A.22.P00012351  | 8.743 | 3.131 | 8.743 | LINC01197                                  | up | Homo sapiens long intergenic non-protein coding RNA 1197 (LINC01197), long non-coding RNA [NR.034095]                                      |
| A.19.P000318163 | 8.758 | 3.131 | 8.758 | LOC1001917                                 | up | Q70W09 HUMAN (Q70W09) Mash2 protein (Fragment), partial, (6), [LOC1001917]   |
| A.22.P00017070  | 8.734 | 3.127 | 8.734 | TARSL2                                     | up | Homo sapiens threonyl-tRNA synthetase-like 2 (TARSL2), mRNA [NM.152334]  |
| A.23.P129128    | 8.725 | 3.125 | 8.725 | HK2  | up | Homo sapiens hexokinase 2 (HK2), mRNA [NM.000189]  |
| A.33.P3214670   | 8.703 | 3.122 | 8.703 | SLC2A3                                     | up | Homo sapiens solute carrier family 2 (facilitated glucose transporter), member 3 (SLC2A3), mRNA [NM.008831]                                |
| A.24.P019100    | 8.695 | 3.120 | 8.695 | CDK1                                       | up | Homo sapiens cyclin-dependent kinase 1 (CDK1), transcript variant 1, mRNA [NM.001788]  |
| A.21.P00003892  | 8.690 | 3.119 | 8.690 | ATRN1                                      | up | Homo sapiens attractin-like 1 (ATRN1), transcript variant 1, mRNA [NM.207303]  |
| A.23.P138507    | 8.685 | 3.118 | 8.685 | HSD3B2                                     | up | Homo sapiens hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 2 (HSD3B2), transcript variant 1, mRNA [NM.000189] |
| A.33.P384473    | 8.682 | 3.118 | 8.682 | RAI2B                                      | up | Homo sapiens Klyxno lactyltransferase 2B (RAI2B), mRNA [NM.003894]   |
| A.23.P51580     | 8.664 | 3.115 | 8.664 | TOP1LL2                                    | up | PREDICTED: Homo sapiens uncharacterized LOC100806737 (LOC100806737), mRNA [XR.172893]  |
| A.32.P159551    | 8.651 | 3.114 | 8.651 | TOP1LL2                                    | up | Homo sapiens topoisomerase I, beta (TOP1LL2), transcript variant 1, mRNA [NM.198465]   |
| A.21.P3010449   | 8.638 | 3.112 | 8.638 | CEP350                                     | up | Homo sapiens C complex 11, testis specific-like 2 (TOP1LL2), transcript variant 1, mRNA [NM.149772]  |
| A.33.P246897    | 8.647 | 3.109 | 8.647 | CEP350                                     | up | Homo sapiens nuclear overexposure assembly transcript 1 (non-protein coding) (NEAT1), long non-coding RNA [NR.028272]                      |
| A.23.P419107    | 8.629 | 3.109 | 8.629 | NEAT1                                      | up | LINCEDIA lincRNA (lnc-CEP350-2), lincRNA [lnc-CEP350-2.1]  |
| A.22.P00023411  | 8.623 | 3.108 | 8.623 | IL24                                       | up | Homo sapiens interleukin 24 (IL24), transcript variant 3, mRNA [NM.001185156]  |
| A.21.P0004521   | 8.623 | 3.108 | 8.623 | DPYSL2                                     | up | Homo sapiens dihydropyrimidinase-like 2 (DPYSL2), transcript variant 2, mRNA [NM.0013816]  |
| A.19.P000318409 | 8.590 | 3.103 | 8.590 | GNAS                                       | up | Homo sapiens guanine nucleotide binding protein, beta 4, 30.3kDa (GNB4), mRNA [NM.153212]  |
| A.33.P323892    | 8.583 | 3.101 | 8.583 | GNAS                                       | up | GNAS complex locus [Source:HGNC Symbol;Acc:HGNC:4392] [ENS:TM0000481798]   |
| A.24.P283837    | 8.579 | 3.101 | 8.579 | SAPCD1                                     | up | Homo sapiens sapin 3 (SAP3), transcript variant 1, mRNA [NM.145733]  |
| A.24.P166974    | 8.576 | 3.100 | 8.576 | MUC1                                       | up | Homo sapiens suppressor APC domain containing 1 (SAPCD1), mRNA [NM.001039651]  |
| A.23.P593127    | 8.569 | 3.099 | 8.569 | TAGLN                                      | up | Homo sapiens alpha-2-macroglycoprotein-like 1 (TAGLN), transcript variant 1, mRNA [NM.001051922]   |
| A.24.P29804     | 8.565 | 3.098 | 8.565 | SMOCC2                                     | up | Homo sapiens alpha-2-macroglycoprotein-like 1 (TAGLN), transcript variant 2, mRNA [NM.001051922]   |
| A.23.P150979    | 8.552 | 3.096 | 8.552 | ELF3                                       | up | Homo sapiens SPOC related modular calcium binding 2 (SMOCC2), transcript variant 1, mRNA [NM.023136]                                       |
| A.22.P0000104   | 8.550 | 3.088 | 8.550 | MAGI1                                      | up | Homo sapiens E7F-like factor 3 (ets domain transcription factor, epithelial-specific) (ELF3), transcript variant 1, mRNA [NM.004430]       |
| A.23.P81011     | 8.547 | 3.085 | 8.547 | MAGI1                                      | up | Homo sapiens neurexins associated guanylate kinase, WW and PDZ domain containing 1 (MAGI1), transcript variant 2, mRNA [NM.004742]         |
| A.23.P103037    | 8.544 | 3.095 | 8.544 | MPRIP                                      | up | Homo sapiens myosin phosphatase Rho interacting protein (MPRIP), transcript variant 1, mRNA [NM.019134]                                    |
| A.23.P104188    | 8.542 | 3.095 | 8.542 | HIST2H3A                                   | up | Homo sapiens histone cluster 2, H3a (HIST2H3A), mRNA [NM.001005464]  |
| A.33.P368935    | 8.519 | 3.081 | 8.519 |  | up |  |
| A.33.P3206206   | 8.517 | 3.080 | 8.517 |  | up |  |
| A.33.P3251678   | 8.515 | 3.090 | 8.515 |  | up |  |

|                |       |       |       |                     |  |
|----------------|-------|-------|-------|---------------------|--|
| A.32.P221      | 8.514 | 3.090 | 8.514 | GT1orf78            | Homo sapiens chromosome 16 open reading frame 78 (GT1orf78), mRNA [NM_144602]  |
| A.21.P001A042  | 8.506 | 3.088 | 8.506 | SIRPEI1             | Homo sapiens signal-regulatory protein beta.1 (SIRPEI), transcript variant 3, mRNA [NM_001135844]  |
| A.32.P176800   | 8.461 | 3.084 | 8.461 | IT0A2               | Homo sapiens integrin, alpha 2 (IT0A9B, alpha 2 subunit of VLA-2 receptor) (IT0A2), transcript variant 1, mRNA [NM_0022209]              |
| A.23.P257111   | 8.452 | 3.079 | 8.452 | FEP1                | Homo sapiens fucose-1,6-bisphosphatase 1 (FEP1), transcript variant 1, mRNA [NM_000507]  |
| A.33.P397384   | 8.452 | 3.078 | 8.452 | TMEM231             | Homo sapiens transmembrane protein 231 (TMEM231), transcript variant 1, mRNA [NM_001071416]  |
| A.33.P3919785  | 8.444 | 3.074 | 8.444 | CRVAB               | Homo sapiens cys241in, alpha B (CRVAB), transcript variant 1, mRNA [NM_0010885]  |
| A.24.P290776   | 8.435 | 3.076 | 8.435 | MIR4435-1HG         | Homo sapiens MIR4435-1 host gene (non-protein coding) (MIR4435-1HG), transcript variant 2, long non-coding RNA [NR_024373]               |
| A.21.P0012079  | 8.413 | 3.073 | 8.413 | IRF4                | Homo sapiens interferon regulatory factor 4 (IRF4), mRNA [NM_001091492]  |
| A.23.P363524   | 8.410 | 3.072 | 8.410 | TAQIN1              | Homo sapiens taqin1 (TAQIN), transcript variant 1, mRNA [NM_001091492]   |
| A.24.P291572   | 8.406 | 3.071 | 8.406 | ANKRD13A            | Homo sapiens ankyrin domain containing 13A (ANKRD13A), mRNA [NM_023171]  |
| A.21.P001521   | 8.400 | 3.070 | 8.400 | MUC16               | Homo sapiens mucin 16, cell surface associated (MUC16), mRNA [NM_024690]   |
| A.33.P3261026  | 8.397 | 3.070 | 8.397 | AFIL1               | Homo sapiens afil1, fibroblast adhesion molecule 1-like (AFIL1), transcript variant 4, mRNA [NM_001165006]                               |
| A.23.P124885   | 8.397 | 3.070 | 8.397 | VASN                | Homo sapiens vasin (VASN), mRNA [NM_138440]  |
| A.21.P0005387  | 8.390 | 3.067 | 8.390 | linc-AC021218.2-1-2 | LINC021218.2-1-2, lincRNA [linc-AC021218.2-1-2]  |
| A.23.P363524   | 8.378 | 3.067 | 8.378 | VIL                 | Homo sapiens involucrin (VIL), mRNA [NM_005547]  |
| A.23.P118478   | 8.375 | 3.066 | 8.375 | EBI3                | Homo sapiens Epstein-Barr virus induced 3 (EBI3), mRNA [NM_005755]   |
| A.23.P112220   | 8.352 | 3.062 | 8.352 | INSL4               | Homo sapiens insulin-like 4 (insulin), INSL4, mRNA [NM_002105]   |
| A.21.P0014125  | 8.333 | 3.059 | 8.333 | linc-MYNN-1         | RS19729 Aberrant RAGE Library Homo sapiens cDNA, mRNA sequence [BG190848]  |
| A.33.P3290780  | 8.327 | 3.058 | 8.327 | HMGA1P7             | Homo sapiens heterodimer 24 (linc-24), transcript variant 3, mRNA [NM_001165156]   |
| A.21.P0000170  | 8.316 | 3.056 | 8.316 | HMGA1P7             | Homo sapiens high mobility group AT-hook 1 pseudogene 7 (HMGA1P7), non-coding RNA [NR_079398]  |
| A.24.P46373    | 8.304 | 3.054 | 8.304 | 5J3C3               | Homo sapiens gap junction protein, gamma 3, 3024Da (GJC3), mRNA [NM_181558]  |
| A.33.P378379   | 8.298 | 3.053 | 8.298 | DNST                | Homo sapiens cornutin, conserved sorting protein (DNST), transcript variant 2, mRNA [NM_001194459]                                       |
| A.22.P00005174 | 8.284 | 3.050 | 8.284 | LINC01501           | Homo sapiens long intergenic non-protein coding RNA 1501 (LINC01501), long non-coding RNA [NR_034157]                                    |
| A.21.P3000858  | 8.282 | 3.046 | 8.282 | linc-AKR1G2-3       | LINC01501, lincRNA [linc-AKR1G2-3]   |
| A.21.P0015247  | 8.268 | 3.046 | 8.268 | WME                 | Homo sapiens membrane metallo-endopeptidase (WME), transcript variant 2b, mRNA [NM_007289]   |
| A.33.P326162   | 8.253 | 3.045 | 8.253 | PPARD               | Homo sapiens peroxisome proliferator-activated receptor delta (PPARD), transcript variant 1, mRNA [NM_008238]                            |
| A.24.P291130   | 8.255 | 3.045 | 8.255 | PPARD               | Homo sapiens peroxisome proliferator-activated receptor delta (PPARD), transcript variant 1, mRNA [NM_008238]                            |
| A.23.P384551   | 8.245 | 3.043 | 8.245 | FLJ12154            | Homo sapiens cDNA FLJ12154, fig. clone, PLAGE000070 [AK098716]   |
| A.33.P3242373  | 8.239 | 3.042 | 8.239 | AFF1                | Homo sapiens AFF1 (FMR2 family, member 1 (AFF1), transcript variant 2, mRNA [NM_009305]  |
| A.21.P0000205  | 8.224 | 3.040 | 8.224 | GZorf48             | Homo sapiens chromosome 2 open reading frame 48 (GZorf48), mRNA [NM_182826]  |
| A.23.P216442   | 8.216 | 3.038 | 8.216 | CEACAM6             | Homo sapiens carcinoembryonic antigen-related cell adhesion molecule 6 (non-specific cross reacting antigen) (CEACAM6), mRNA [NM_002483] |
| A.23.P38558    | 8.213 | 3.038 | 8.213 | ABHD11              | Homo sapiens abhydrolase domain containing 11 (ABHD11), transcript variant 1, mRNA [NM_148112]   |
| A.21.P0004597  | 8.200 | 3.036 | 8.200 | linc-PKQR1-1        | LINC01501, lincRNA [linc-PKQR1-1]  |
| A.21.P0005037  | 8.198 | 3.035 | 8.198 | LOC102724188        | LOC102724188, lincRNA [LOC102724188]   |
| A.33.P3282476  | 8.198 | 3.035 | 8.198 | LOC100728897        | LOC100728897, lincRNA [LOC100728897]   |
| A.33.P382903   | 8.194 | 3.035 | 8.194 | ISPD                | Homo sapiens isoprenoid synthase domain containing (ISPD), transcript variant 1, mRNA [NM_001014296]                                     |
| A.33.P333250   | 8.181 | 3.032 | 8.181 | OSR1                | OSR1 antisense RNA 1 (read to head) [Source:HGNC Symbol;Acc:HGNC:50260] [ENS00000512619]   |
| A.22.P00003459 | 8.170 | 3.030 | 8.170 | DKFZp454G46433      | DKFZp454G46433 (synonym: huc5) Homo sapiens cDNA Bone DMP2494P022.5, mRNA [AF044633]   |
| A.33.P328177   | 8.150 | 3.027 | 8.150 | TIME2               | Homo sapiens TIMP metalloproteinase inhibitor 2 (TIME2), mRNA [NM_023255]  |
| A.21.P0006847  | 8.147 | 3.026 | 8.147 | linc-G1orf128-2     | LINC01501, lincRNA [linc-G1orf128-2]   |
| A.23.P214681   | 8.144 | 3.026 | 8.144 | PPARD               | Homo sapiens peroxisome proliferator-activated receptor delta (PPARD), transcript variant 1, mRNA [NM_008238]                            |
| A.23.P25706    | 8.139 | 3.025 | 8.139 | GLMN                | Homo sapiens calpain (calpain-like, transmembrane) (GLMN), mRNA [NM_024734]  |
| A.32.P39678    | 8.139 | 3.025 | 8.139 | FAM221A             | Homo sapiens family with sequence similarity 221, member A (FAM221A), transcript variant 2, mRNA [NM_001127384]                          |
| A.33.P3289226  | 8.138 | 3.025 | 8.138 | HPR                 | Homo sapiens heparin sulfate proteoglycan 2-related protein (HPR), mRNA [NM_020945]  |
| A.22.P00024715 | 8.134 | 3.024 | 8.134 | linc-S100A1-2       | LINC01501, lincRNA [linc-S100A1-2]   |
| A.19.P00316257 | 8.129 | 3.023 | 8.129 | LOC101927688        | LOC101927688, lincRNA [LOC101927688]   |
| A.22.P0000938  | 8.129 | 3.023 | 8.129 | LINC00704           | Homo sapiens long intergenic non-protein coding RNA 704 (LINC00704), long non-coding RNA [NR_024475]                                     |
| A.23.P382712   | 8.128 | 3.023 | 8.128 | ABHD11              | Homo sapiens abhydrolase domain containing 11 (ABHD11), transcript variant 9, mRNA [NM_001301059]  |
| A.23.P22647    | 8.097 | 3.017 | 8.097 | FAM156B             | Homo sapiens family with sequence similarity 155, member B (FAM156B), mRNA [NM_015686]   |
| A.23.P25730    | 8.079 | 3.014 | 8.079 | SNRNP72             | Homo sapiens small nuclear ribonucleoprotein B72 (SNRNP72), mRNA [NM_019151]   |
| A.22.P00020444 | 8.076 | 3.014 | 8.076 | linc-MAGI1-2        | linc-MAGI1-2, lincRNA [linc-MAGI1-2]   |
| A.33.P333176   | 8.071 | 3.013 | 8.071 | EST12632            | EST12632, EST1, Homo sapiens cDNA 5, clone, mRNA sequence [AA244474]   |
| A.22.P00018594 | 8.039 | 3.007 | 8.039 | linc-THES3-1        | linc-THES3-1, lincRNA [linc-THES3-1]   |
| A.21.P0013416  | 8.022 | 3.004 | 8.022 | linc-MAGC1-1        | LINC01501, lincRNA [linc-MAGC1-1]  |
| A.22.P00000307 | 8.015 | 3.003 | 8.015 | AB371490            | AB371490, pKALUS [AB371490]  |
| A.22.P00016802 | 8.002 | 3.000 | 8.002 | linc-THES3-1        | LINC01501, lincRNA [linc-THES3-1]  |
| A.23.P271133   | 7.976 | 2.996 | 7.976 | KRT15               | Homo sapiens keratin 15, type I (KRT15), mRNA [NM_002275]  |
| A.24.P289082   | 7.967 | 2.994 | 7.967 | SPRY4               | Homo sapiens sprouty homolog 4 (Drosophila) (SPRY4), transcript variant 1, mRNA [NM_030984]  |
| A.23.P329486   | 7.953 | 2.991 | 7.953 | TM4SF19             | Homo sapiens transmembrane 4 L, six family member 19 (TM4SF19), transcript variant 1, mRNA [NM_138461]                                   |
| A.33.P355900   | 7.940 | 2.989 | 7.940 | PNPLA5              | Homo sapiens patatin-like phospholipase domain containing 5 (PNPLA5), transcript variant 1, mRNA [NM_138814]                             |
| A.23.P5200     | 7.928 | 2.987 | 7.928 | NPHS1               | Homo sapiens nephrosis 1, congenital, Finnish type (nephros) (NPHS1), mRNA [NM_024646]   |
| A.33.P3270172  | 7.926 | 2.987 | 7.926 | LINC00028           | Homo sapiens long intergenic non-protein coding RNA 628 (LINC00028), long non-coding RNA [NR_024475]                                     |
| A.22.P00003221 | 7.913 | 2.984 | 7.913 | NEAT1               | CR237705, Scaevola testis, NIT Homo sapiens cDNA clone IMAGE97100176, IMAGE1752149.5, mRNA sequence [CR237705]                           |
| A.22.P00001342 | 7.911 | 2.984 | 7.911 | NEAT1               | Homo sapiens nuclear paraspeckle assembly transcript 1 (non-protein coding) (NEAT1), long non-coding RNA [NR_028272]                     |
| A.23.P125233   | 7.898 | 2.982 | 7.898 | GNN1                | Homo sapiens calponin 1, basic, smooth muscle (GNN1), mRNA [NM_001209]   |
| A.23.P38665    | 7.896 | 2.981 | 7.896 | KRT33B              | Homo sapiens keratin 33B, type I (KRT33B), mRNA [NM_002279]  |
| A.33.P330802   | 7.892 | 2.980 | 7.892 | LINC100100916       | Homo sapiens clone DNA131652, HSAL156338, UNQ488330, mRNA, complete cds. [AY335791]  |

|                |       |       |       |                      |  |
|----------------|-------|-------|-------|----------------------|--|
| A.21.P0014655  | 7.882 | 2.979 | 7.882 | OVOLLT-AS1           | Homo sapiens OVOLLT antisense RNA 1 (OVOLLT-AS1), long non-coding RNA [NR_080685]  |
| A.23.P39645    | 7.870 | 2.976 | 7.870 | ARHGAP30             | Homo sapiens Rho GTPase activating protein 30 (ARHGAP30), transcript variant 1, mRNA [NM_001025598]  |
| A.22.P00018616 | 7.864 | 2.975 | 7.864 | FA5H                 | RST4912 Albersay RAGE Library Homo sapiens cDNA, mRNA sequence [BG189577]  |
| A.23.P49448    | 7.846 | 2.972 | 7.846 | DNAJC6               | Homo sapiens fatty acid 2-hydroxylase (FA2H), mRNA [NM_024306]   |
| A.33.P3210714  | 7.843 | 2.971 | 7.843 | DNAJC6               | Homo sapiens Dnaj (Hsp40) homolog, subfamily C, member 6 (DNAJC6), transcript variant 1, mRNA [NM_007298884]                                   |
| A.21.P0012373  | 7.837 | 2.970 | 7.837 | LOC101928015         | PREDICTED: Homo sapiens uncharacterized LOC101928015 (AC116035.1), transcript variant X2, cDNA [XR_245199]                                     |
| A.22.P00016710 | 7.825 | 2.968 | 7.825 | linc-NEFB-1          | lincRNA lincRNA (linc-NEFB-1), lincRNA [linc-NEFB-1.1]   |
| A.21.P0015772  | 7.824 | 2.967 | 7.824 | LOC101928015         | LOC101928015 (HSP40), cDNA [NM_001025598]  |
| A.21.P0015217  | 7.785 | 2.965 | 7.785 | LOC102131448         | LOC102131448 (LOC102131448), lincRNA [LOC102131448]  |
| A.23.P18282    | 7.781 | 2.960 | 7.781 | DLEC1                | Homo sapiens deleted in lung and esophageal cancer 1 (DLEC1), transcript variant DLEC1-N1, mRNA [NM_0070335]                                   |
| A.32.P405759   | 7.760 | 2.956 | 7.760 | GOLZ2A1              | Homo sapiens collagen type XXII alpha 1 (COL22A1), mRNA [NM_152888]  |
| A.24.P83129    | 7.738 | 2.952 | 7.738 | ISPD                 | Homo sapiens isoenzyme synthase domain containing (ISPD), transcript variant 1, mRNA [NM_001101426]  |
| A.21.P00104892 | 7.720 | 2.949 | 7.720 | NR2F1-AS1            | Homo sapiens NR2F1 antisense RNA 1 (NR2F1-AS1), transcript variant 1, long non-coding RNA [NR_098825]  |
| A.22.P00066112 | 7.713 | 2.947 | 7.713 | XIST                 | Homo sapiens X inactive specific transcript (non-protein coding) (XIST), long non-coding RNA [NR_001554]                                       |
| A.22.P00010470 | 7.708 | 2.946 | 7.708 | XIST                 | Homo sapiens X inactive specific transcript (non-protein coding) (XIST), long non-coding RNA [NR_001554]                                       |
| A.32.P103945   | 7.703 | 2.945 | 7.703 | B4GALT4              | Homo sapiens UDP-Galactose 4-epimerase (B4GALT4), transcript variant 1, mRNA [NM_020960]   |
| A.23.P106582   | 7.700 | 2.945 | 7.700 | ADP9                 | Homo sapiens adenosine diphosphate 9 (ADP9), mRNA [NM_020960]  |
| A.19.P00317963 | 7.694 | 2.944 | 7.694 | linc-PEEP-3          | lincRNA lincRNA (linc-PEEP-3), lincRNA [linc-PEEP-3.2]   |
| A.32.P153691   | 7.690 | 2.943 | 7.690 | DARPB3               | Homo sapiens diaphanous-related domain 3 (DARPB3), transcript variant 1, mRNA [NM_01924517]  |
| A.23.P107181   | 7.688 | 2.943 | 7.688 | SULT1B1              | Homo sapiens sulfotransferase family, cytosolic, 2b, member 1 (SULT1B1), transcript variant 1, mRNA [NM_004663]                                |
| A.23.P101592   | 7.682 | 2.942 | 7.682 | MARGO                | Homo sapiens macrophage receptor with collagenous structure (MARGO), mRNA [NM_006720]  |
| A.32.P104000   | 7.681 | 2.941 | 7.681 | DCUN1D3              | Homo sapiens DCUN1 defective in cullin neddylation 1, domain containing 3 (DCUN1D3), mRNA [NM_173475]  |
| A.33.P3353966  | 7.680 | 2.941 | 7.680 | PPP1R3G              | Homo sapiens protein phosphatase 1, regulatory subunit 3G (PPP1R3G), mRNA [NM_01145115]  |
| A.32.P170397   | 7.665 | 2.938 | 7.665 | linc-AJMD7-FLA2G4B-1 | Homo sapiens cDNA FLJ33863, fig. clone TRACH200047, [AK057625]   |
| A.23.P116900   | 7.663 | 2.938 | 7.663 | PRB3                 | Homo sapiens proline-rich protein B3 (PRB3), mRNA [NM_006249]  |
| A.21.P0010254  | 7.661 | 2.938 | 7.661 | linc-UMODL1-1        | lincRNA lincRNA (linc-UMODL1-1), lincRNA [linc-UMODL1-1.2]   |
| A.22.P28847    | 7.647 | 2.935 | 7.647 | SOX9                 | Homo sapiens SOX (sex determining region Y)-box 9 (SOX9), mRNA [NM_000346]   |
| A.33.P3351097  | 7.647 | 2.935 | 7.647 | LOC100192741         | Homo sapiens uncharacterized LOC100192741 (LOC100192741), long non-coding RNA [NR_024904]  |
| A.22.P00001157 | 7.646 | 2.935 | 7.646 | linc-AMOTL2-2        | BX06516 Soares, NHHPPI, S1 Homo sapiens cDNA clone IMAGE6981/13216, mRNA sequence [BX06516]  |
| A.23.P161769   | 7.644 | 2.934 | 7.644 | FX102                | Homo sapiens FX10 domain containing (on transport regulator 2) (FX102), transcript variant b, mRNA [NM_021603]                                 |
| A.33.P3381186  | 7.636 | 2.933 | 7.636 | SLC5A8               | Homo sapiens solute carrier family 5 (sodium/menocobalate cotransporter), member 8 (SLC5A8), mRNA [NM_149103]                                  |
| A.21.P0017150  | 7.630 | 2.932 | 7.630 | APODD1L-AS1          | Homo sapiens APODD1L antisense RNA 1 (head to head) (APODD1L-AS1), long non-coding RNA [NR_0244204]  |
| A.23.P147805   | 7.603 | 2.927 | 7.603 | UPP1                 | Homo sapiens uridine phosphorylase 1 (UPP1), transcript variant 4, mRNA [NM_01287428]  |
| A.32.P205637   | 7.592 | 2.925 | 7.592 | PARO6B               | Homo sapiens par-6 family cell polarity regulator beta (PARO6B), mRNA [NM_032521]  |
| A.23.P15348    | 7.584 | 2.923 | 7.584 | MPRIP                | Homo sapiens myosin phosphatase Rho interacting protein (MPRIP), transcript variant 1, mRNA [NM_015134]  |
| A.24.P279149   | 7.562 | 2.919 | 7.562 | LINC0152             | Homo sapiens long intergenic non-protein coding RNA 152 (LINC0152), transcript variant 1, long non-coding RNA [NR_024204]                      |
| A.19.P00220816 | 7.552 | 2.917 | 7.552 | CATSPER1             | microRNA 29b-1 [Source:HGNC Symbol;Acc:HGNC:3161] [ENS:00000418546]  |
| A.23.P19276    | 7.547 | 2.916 | 7.547 | CATSPER1             | Homo sapiens cation channel, sperm associated 1 (CATSPER1), mRNA [NM_050954]   |
| A.33.P348283   | 7.536 | 2.914 | 7.536 | CASP10               | Homo sapiens caspase 10, apoptosis-related cysteine peptidase (CASP10), transcript variant 1, mRNA [NM_029377]                                 |
| A.22.P0002811  | 7.533 | 2.913 | 7.533 | linc-C2orf42-3       | GBTAPV_HUMAN (GBTAPV) C2orf42 protein, partial (34k) [TH0248446]   |
| A.23.P166823   | 7.520 | 2.911 | 7.520 | TNCT1                | Homo sapiens tropomyosin C type 1 (class) (TNCT1), mRNA [NM_002380]  |
| A.33.P3224832  | 7.517 | 2.910 | 7.517 | F3                   | Homo sapiens coagulation factor III (thromboplastin, tissue factor) (F3), transcript variant 1, mRNA [NM_001935]                               |
| A.23.P32423    | 7.507 | 2.908 | 7.507 | OPRT                 | Homo sapiens quinolinate phosphoribosyltransferase (OPRT), mRNA [NM_014298]  |
| A.22.P0006865  | 7.489 | 2.904 | 7.489 | ILRN                 | Homo sapiens interleukin 1 receptor antagonist (ILRN), transcript variant 4, mRNA [NM_128443]  |
| A.23.P242829   | 7.479 | 2.903 | 7.479 | LUCA11               | long cancer associated transcript 1 (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:48488] [ENS:00000518026]                                 |
| A.21.P0003941  | 7.465 | 2.900 | 7.465 | AFF1                 | Homo sapiens AF4 (FMR2) family, member 1 (AFF1), transcript variant 4, mRNA [NM_005935]  |
| A.24.P41432    | 7.464 | 2.900 | 7.464 | MUM1L1               | Homo sapiens melanoma associated antigen (mutated) 1-like 1 (MUM1L1), transcript variant 2, mRNA [NM_152423]                                   |
| A.23.P13571    | 7.463 | 2.900 | 7.463 | ISC20                | Homo sapiens interferon stimulated exonuclease gene 20kDa (ISG20), transcript variant 1, mRNA [NM_002201]                                      |
| A.23.P2404     | 7.459 | 2.895 | 7.459 | SLC44A2              | Homo sapiens solute carrier family 44 (choline transporter), member 2 (SLC44A2), transcript variant 1, mRNA [NM_020428]                        |
| A.33.P3303540  | 7.436 | 2.885 | 7.436 | SPDYC                | Homo sapiens speedy/RINGO cell cycle regulator family member C (SPDYC), mRNA [NM_001008778]  |
| A.33.P327945   | 7.436 | 2.884 | 7.436 | PLI3                 | Homo sapiens plate- like kinase 3 (PLI3), mRNA [NM_004073]   |
| A.23.P151646   | 7.422 | 2.882 | 7.422 | OTED2                | Homo sapiens Chy p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2 (OTED2), transcript variant 1, mRNA [NM_008039] |
| A.33.P3213374  | 7.414 | 2.890 | 7.414 | linc-RNF192-3        | PREDICTED: Homo sapiens uncharacterized LOC102725109 (LOC102725109), mRNA [XR_451570]  |
| A.33.P3202978  | 7.396 | 2.887 | 7.396 | linc-RNF192-3        | lincRNA lincRNA (linc-RNF192-3), lincRNA [linc-RNF192-3.1]   |
| A.21.P0001664  | 7.373 | 2.882 | 7.373 | TCHH                 | OTED2, TREP4, OTED20, P65, R5, fragment, partial (5k) [TH02457094]   |
| A.22.P00014571 | 7.354 | 2.879 | 7.354 | LOC102000110         | Homo sapiens tetrahymena (TCHH), mRNA [NM_001113]  |
| A.33.P3381684  | 7.352 | 2.878 | 7.352 | MFAP5                | BROAD Institute lincRNA, LOC102000110, lincRNA [LOC102000110]  |
| A.21.P00108413 | 7.351 | 2.878 | 7.351 | MFAP5                | Homo sapiens microfibrillar associated protein 5 (MFAP5), transcript variant 1, mRNA [NM_003480]   |
| A.21.P0013867  | 7.310 | 2.870 | 7.310 | 2.867                |  |
| A.33.P3303302  | 7.291 | 2.866 | 7.291 | 2.866                |  |

|                |       |       |       |               |   |
|----------------|-------|-------|-------|---------------|---|
| A.24.P06783    | 7.287 | 2.865 | 7.287 | IL3ORN        | Homo sapiens interleukin 3R receptor antagonist 1 (IL3ORN), transcript variant 1, mRNA [NM.0102275]                                 |
| A.22.P00005298 | 7.274 | 2.863 | 7.274 | ICP1          | Homo sapiens lymphocyte cytosolic protein 1 (L- <i>plastin</i> ) (LOPI), mRNA [NM.002298]   |
| A.23.P204847   | 7.273 | 2.863 | 7.273 | ICP1          | Homo sapiens lymphocyte cytosolic protein 1 (L- <i>plastin</i> ) (LOPI), mRNA [NM.002298]   |
| A.21.P0004230  | 7.254 | 2.859 | 7.254 | IRNT2         | Longidelta lincRNA (inc-FAM105B-2), lincRNA (inc-FAM105B-2), lincRNA [NM.0148892]   |
| A.23.P08579    | 7.247 | 2.857 | 7.247 | IRNT2         | Longidelta lincRNA (inc-FAM105B-2), lincRNA (inc-FAM105B-2), lincRNA [NM.0148892]   |
| A.21.P000418   | 7.224 | 2.853 | 7.224 | IRNF1         | Longidelta lincRNA (inc-ATF3-1), lincRNA (inc-ATF3-1), lincRNA [NM.0148892]   |
| A.33.P3030654  | 7.224 | 2.853 | 7.224 | IRNF1         | Longidelta lincRNA (inc-ATF3-1), lincRNA (inc-ATF3-1), lincRNA [NM.0148892]   |
| A.24.P08323    | 7.218 | 2.852 | 7.218 | SAMD4A        | Homo sapiens sterile alpha motif domain containing 4A (SAMD4A), transcript variant 1, mRNA [NM.009389]                              |
| A.21.P001185   | 7.217 | 2.851 | 7.217 | XLOC12.007395 | BROAD lincRNA (inc-XLOC12.007395), lincRNA [TCONS12.0014030]  |
| A.33.P3034081  | 7.199 | 2.848 | 7.199 | PRDM1         | Homo sapiens PR domain containing 1, with zinc finger domain (PRDM1), transcript variant 1, mRNA [NM.001198]                        |
| A.21.P42051    | 7.196 | 2.847 | 7.196 | CIT           | Homo sapiens citron rho-interacting serine/threonine kinase (CIT), transcript variant 2, mRNA [NM.007174]                           |
| A.21.P001226   | 7.192 | 2.846 | 7.192 | SLC37A2       | BX114699 CGI COAP, Co3 Homo sapiens cDNA IMAcG4984/24233, mRNA sequence [BX114699]  |
| A.33.P0474319  | 7.149 | 2.838 | 7.149 | SLC37A2       | Homo sapiens solute carrier family 37 (glucose-6-phosphate transporter), member 2 (SLC37A2), transcript variant 1, mRNA [NM.175065] |
| A.24.P10657    | 7.131 | 2.834 | 7.131 | SLC44A2       | Homo sapiens solute carrier family 44 (choline transporter), member 2 (SLC44A2), transcript variant 1, mRNA [NM.026429]             |
| A.24.P19677    | 7.128 | 2.834 | 7.128 | IFNLRI        | Homo sapiens solute carrier family 44 (choline transporter), member 2 (SLC44A2), transcript variant 1, mRNA [NM.026429]             |
| A.24.P0497684  | 7.124 | 2.833 | 7.124 | SOX9-AS1      | Homo sapiens SOX9 antisense RNA 1 (SOX9-AS1), transcript variant 1, long non-coding RNA [NR.037398]                                 |
| A.33.P292815   | 7.119 | 2.832 | 7.119 | WFDDB         | WAP four-disulfide core domain 6 (SourceHGNC SymbolAc:HENC10184) [ENST0000027865]   |
| A.24.P29285    | 7.119 | 2.832 | 7.119 | WFDDB         | Homo sapiens folate receptor 2 (fetal) (FOLR2), transcript variant 1, mRNA [NM.009803]  |
| A.23.P293524   | 7.114 | 2.831 | 7.114 | GENPE         | Homo sapiens centromere protein E-3 (CEP3), transcript variant 1, mRNA [NM.001813]  |
| A.21.P000138   | 7.112 | 2.830 | 7.112 | DOX7          | Homo sapiens uncharacterized LOC100507477, transcript variant 1, long non-coding RNA [NR.037398]                                    |
| A.23.P08854    | 7.109 | 2.828 | 7.109 | PKNOX2        | Homo sapiens protein tyrosine phosphatase 1 (SH-PTPase) (PTP), transcript variant 1, long non-coding RNA [NR.037398]                |
| A.23.P75529    | 7.092 | 2.826 | 7.092 | XLOC12.001134 | Homo sapiens PRX, isoform 1, lincRNA (inc-PRX-1), mRNA [TCONS12.0001553]  |
| A.21.P0010778  | 7.089 | 2.826 | 7.089 | SOX9-AS1      | Homo sapiens SOX9 antisense RNA 1 (SOX9-AS1), transcript variant 1, long non-coding RNA [NR.037398]                                 |
| A.22.P00014808 | 7.087 | 2.825 | 7.087 | SOX9-AS1      | Homo sapiens SOX9 antisense RNA 1 (SOX9-AS1), transcript variant 1, long non-coding RNA [NR.037398]                                 |
| A.32.P207167   | 7.085 | 2.825 | 7.085 | ZNF385        | QRPPE/HUMAN (QRPPE) RHO1 protein (Fragment), partial (1X), [TCH268997]  |
| A.33.P242506   | 7.074 | 2.823 | 7.074 | ZNF385        | Homo sapiens zinc finger protein, 385 (ZNF385), transcript variant 8, mRNA [NM.194450]  |
| A.21.P001181   | 7.070 | 2.822 | 7.070 | FENDRR        | BROAD lincRNA (inc-XLOC12.007458), lincRNA [TCONS12.0001854]  |
| A.19.P0022440  | 7.055 | 2.819 | 7.055 | FENDRR        | Homo sapiens FOXF1 adjacent non-coding developmental regulatory RNA (FENDRR), transcript variant 2, long non-coding RNA [NR.038444] |
| A.33.P083256   | 7.048 | 2.817 | 7.048 | RHBG          | Homo sapiens uncharacterized LOC404028 (LOC404028), long non-coding RNA [NR.03972]  |
| A.33.P0972744  | 7.046 | 2.817 | 7.046 | RHBG          | Homo sapiens Rb family B $\beta$ -globulin (gene/pseudogene) (RHBG), transcript variant 2, mRNA [NM.00295395]                       |
| A.22.P001552   | 7.011 | 2.810 | 7.011 | inc-S1K24-1   | Longidelta lincRNA (inc-S1K24-1), lincRNA (inc-S1K24-1), lincRNA [NM.029257]  |
| A.24.P084183   | 7.009 | 2.809 | 7.009 | SLC44A4       | Homo sapiens solute carrier family 44, member 4 (SLC44A4), transcript variant 1, mRNA [NM.029257]                                   |
| A.23.P29158    | 7.007 | 2.809 | 7.007 | DOX7          | Homo sapiens POP homeobox (POP-2) (POPO2), transcript variant 2, mRNA [NM.03741]  |
| A.23.P29159    | 7.007 | 2.809 | 7.007 | DOX7          | Homo sapiens POP homeobox (POP-2) (POPO2), transcript variant 2, mRNA [NM.03741]  |
| A.21.P002222   | 6.970 | 2.801 | 6.970 | inc-VPR2-1    | Longidelta lincRNA (inc-VPR2-1), lincRNA (inc-VPR2-1), lincRNA [NM.030027]  |
| A.33.P0379571  | 6.962 | 2.799 | 6.962 | MAP3K9        | Homo sapiens mitogen-activated protein kinase kinase kinase 9 (MAP3K9), transcript variant 1, mRNA [NM.033141]                      |
| A.33.P086296   | 6.961 | 2.799 | 6.961 | KONG1         | PREDICED: Homo sapiens potassium voltage-gated channel, subfamily G, member 1 (KONG1), transcript variant X2, mRNA [XM.006232786]   |
| A.24.P007889   | 6.961 | 2.799 | 6.961 | LLGL2         | Homo sapiens lethal giant larvae homolog 2 (Drosophila) (LLGL2), transcript variant 2, mRNA [NM.001015002]                          |
| A.33.P039055   | 6.961 | 2.799 | 6.961 | LLGL2         | Homo sapiens leucine-rich repeat, LGL family, member 2 (LGL2), mRNA [NM.018176]   |
| A.33.P322857   | 6.955 | 2.798 | 6.955 | LLGL2         | DB056001 TESTIP: Homo sapiens cDNA clone EST12647484.5, mRNA sequence [DB056001]  |
| A.21.P0015088  | 6.941 | 2.795 | 6.941 | LOG101828304  | Homo sapiens uncharacterized LOC101828304 (LOC101828304), transcript variant 1, long non-coding RNA [NR.125855]                     |
| A.19.P0037953  | 6.928 | 2.792 | 6.928 | ANKRD13A      | Homo sapiens ankyrin repeat domain 13A (ANKRD13A), mRNA [NM.033121]   |
| A.23.P55544    | 6.920 | 2.791 | 6.920 | COBE1         | Homo sapiens collagen and calcium binding EGF domains 1 (COBE1), mRNA [NM.138459]   |
| A.22.P001312   | 6.920 | 2.791 | 6.920 | inc-OSBP-1    | Longidelta lincRNA (inc-OSBP-1), lincRNA (inc-OSBP-1), lincRNA [NM.03313]   |
| A.19.P0031820  | 6.918 | 2.790 | 6.918 | COBE1         | Homo sapiens sodium channel, voltage-gated, type I, $\beta$ subunit (SCN1B), mRNA [NM.009393]                                       |
| A.22.P0011217  | 6.913 | 2.789 | 6.913 | COBE1         | Homo sapiens sodium channel, voltage-gated, type I, $\beta$ subunit (SCN1B), mRNA [NM.009393]                                       |
| A.21.P00112463 | 6.909 | 2.787 | 6.909 | COBE1         | Homo sapiens sodium channel, voltage-gated, type I, $\beta$ subunit (SCN1B), mRNA [NM.009393]                                       |
| A.23.P081929   | 6.895 | 2.786 | 6.895 | CEPBP1-AS1    | Homo sapiens centromere protein 1, isoform 28, pseudogene (LOC839226), non-coding RNA [NR.028420]                                   |
| A.19.P00806473 | 6.889 | 2.784 | 6.889 | CEPBP1        | Homo sapiens centromere protein 1, isoform 28, pseudogene (LOC839226), non-coding RNA [NR.028420]                                   |
| A.21.P0002825  | 6.889 | 2.780 | 6.889 | inc-OPAI-2    | Longidelta lincRNA (inc-OPAI-2), lincRNA (inc-OPAI-2), lincRNA [NM.018343]  |
| A.33.P2929125  | 6.866 | 2.780 | 6.866 | SATL1         | Homo sapiens spermidine/spermine N1-acetyltransferase-like 1 (SATL1), mRNA [NM.001012989]   |
| A.21.P0012031  | 6.855 | 2.777 | 6.855 | MAFF          | Homo sapiens v-maf avian musculoaponeurotic fibrosarcoma oncogene homolog F (MAFF), transcript variant 1, mRNA [NM.012323]          |
| A.33.P322802   | 6.844 | 2.775 | 6.844 | MAFF          | Homo sapiens ornithine decarboxylase (ODC1), mRNA [NM.001004134]  |
| A.23.P103110   | 6.833 | 2.773 | 6.833 | OR10AD1       | Homo sapiens ornithine decarboxylase (ODC1), mRNA [NM.001004134]  |
| A.33.P0219498  | 6.833 | 2.773 | 6.833 | OR10AD1       | Homo sapiens ornithine decarboxylase (ODC1), mRNA [NM.001004134]  |
| A.23.P202104   | 6.807 | 2.767 | 6.807 | PHF           | Homo sapiens phosphatase 1, cytosolic (PHF), mRNA [NM.005729]   |
| A.23.P04048    | 6.806 | 2.767 | 6.806 | STPR1         | Homo sapiens phosphatase 1, cytosolic (PHF), mRNA [NM.005729]   |
| A.33.P231848   | 6.803 | 2.768 | 6.803 | TCU4L1        | Homo sapiens phosphatase 1, cytosolic (PHF), mRNA [NM.005729]   |
| A.23.P081620   | 6.795 | 2.765 | 6.795 | HERF2         | Homo sapiens heterotrimeric G-protein $\beta$ subunit 2 (GRIK2), transcript variant 1, mRNA [NM.006528]                             |
| A.24.P140808   | 6.795 | 2.764 | 6.795 | HERF2         | Homo sapiens heterotrimeric G-protein $\beta$ subunit 2 (GRIK2), transcript variant 1, mRNA [NM.006528]                             |
| A.33.P204580   | 6.794 | 2.764 | 6.794 | KIAA1244      | Homo sapiens KIAA1244 (KIAA1244), mRNA [NM.029340]  |
| A.23.P08053    | 6.792 | 2.764 | 6.792 | Y6G6C         | Homo sapiens lymphocyte antigen 6 complex, locus G6C (LY6G6C), mRNA [NM.029341]   |
| A.33.P424282   | 6.786 | 2.763 | 6.786 | GJ22          | Homo sapiens gap junction protein, gamma 2, 47kDa (GJ22), mRNA [NM.020453]  |
| A.22.P00010044 | 6.782 | 2.762 | 6.782 | LOG101827884  | Homo sapiens uncharacterized LOC101827884 (LOC101827884), long non-coding RNA [NR.110281]   |

|                |       |       |       |                |  |
|----------------|-------|-------|-------|----------------|--|
| A.33.P320068   | 6.780 | 2.761 | 6.780 | PRSS8          | Homo sapiens protease, serine, 8 (PRSS8), mRNA [NM 002773]   |
| A.22.P00012044 | 6.777 | 2.761 | 6.777 | G06R7-AS1      | Chloride channel, non-selective (NALCN), mRNA [ENST00000617055]  |
| A.21.P0012078  | 6.759 | 2.757 | 6.759 | MIR4435-HIG    | Homo sapiens MIR4435-1 host gene (non-protein coding) (MIR4435-HIG), transcript variant 1, long non-coding RNA [NR 016395] |
| A.32.P101680   | 6.758 | 2.756 | 6.758 | TMEM106A       | Homo sapiens transmembrane protein 106A (TMEM106A), transcript variant 1, mRNA [NM 001291586]                              |
| A.33.P3218654  | 6.755 | 2.756 | 6.755 |                |  |
| A.21.P0017267  | 6.754 | 2.756 | 6.754 |                |  |
| A.22.P00008438 | 6.753 | 2.753 | 6.753 |                |  |
| A.23.P357104   | 6.743 | 2.753 | 6.743 |                |  |
| A.21.P00009805 | 6.741 | 2.753 | 6.741 |                |  |
| A.22.P00004657 | 6.739 | 2.750 | 6.739 | inc-CHSY1-5    | LOC102281939: Homo sapiens LOC102281939 (CHSY1-5), lincRNA [inc-CHSY1-5, 5]  |
| A.33.P3218657  | 6.738 | 2.750 | 6.738 |                |  |
| A.33.P3353382  | 6.735 | 2.747 | 6.735 | KAI1-24A       | Homo sapiens KAI1-24A (KAI1-24A), mRNA [NM 0203440]  |
| A.32.P2483350  | 6.713 | 2.747 | 6.713 | ARG1           | Homo sapiens arginase 1 (ARG1), transcript variant 1, mRNA [NM 001344430]  |
| A.21.P0014228  | 6.713 | 2.747 | 6.713 | TDRO3          | Homo sapiens tudor domain containing 3 (TDRO3), mRNA [NM 153048]   |
| A.23.P129144   | 6.702 | 2.745 | 6.702 | DDCH4B         | PREDICTED: Homo sapiens cell division cycle 14B (CDC14B), transcript variant 2, mRNA [XM 005252287]                        |
| A.23.P103445   | 6.699 | 2.744 | 6.699 | MYZAP          | Homo sapiens myocardin zeta adhesion protein (MYZAP), transcript variant 1, mRNA [NM 001018100]                            |
| A.23.P232390   | 6.679 | 2.740 | 6.679 | CHIC2          | Homo sapiens cysteine-rich hydrophobic domain 2 (CHIC2), mRNA [NM 012110]  |
| A.23.P232751   | 6.678 | 2.739 | 6.678 | GRAMD3         | Homo sapiens GRAM domain containing 3 (GRAMD3), transcript variant 2, mRNA [NM 023927]                                     |
| A.23.P35871    | 6.677 | 2.739 | 6.677 | TGFA           | Homo sapiens transforming growth factor alpha (TGFA), transcript variant 1, mRNA [NM 003236]                               |
| A.19.P00321743 | 6.674 | 2.739 | 6.674 | E2F8           | Homo sapiens E2F transcription factor 8 (E2F8), transcript variant 1, mRNA [NM 024660]                                     |
| A.33.P3216300  | 6.672 | 2.738 | 6.672 |                |  |
| A.23.P248088   | 6.669 | 2.738 | 6.669 | PAOSINI        | PREDICTED: Homo sapiens uncharacterized LOC100130038 (LOC100130038), transcript variant X1, mRNA [XR 110148]               |
| A.21.P0001849  | 6.669 | 2.737 | 6.669 | LINC00486      | PMP22 HUMAN (LOC101453) Peripheral myelin protein 22 (PMP-22), complete [HG255653]   |
| A.23.P253012   | 6.669 | 2.737 | 6.669 | LINC00486      | Homo sapiens protein kinase C and casein kinase substrate in neurons 1 (PAOSINI), transcript variant 1, mRNA [NM 020694]   |
| A.23.P241290   | 6.656 | 2.735 | 6.656 | GRAMD1C        | Homo sapiens GRAM domain containing 1C (GRAMD1C), transcript variant 1, mRNA [NM 017677]                                   |
| A.19.P00322850 | 6.652 | 2.734 | 6.652 | DKK1           | Homo sapiens dickkopf WNT signaling pathway inhibitor 1 (DKK1), mRNA [NM 012242]   |
| A.21.P0014066  | 6.652 | 2.734 | 6.652 |                |  |
| A.22.P0006543  | 6.651 | 2.734 | 6.651 | KONG1          | Homo sapiens uncharacterized LOC102461747 (LOC102461747), long non-coding RNA [NR 104664]                                  |
| A.19.P0031951  | 6.650 | 2.733 | 6.650 | LOC101927688   | PREDICTED: Homo sapiens uncharacterized LOC101927688 (LOC101927688), long non-coding RNA [NR 110114]                       |
| A.21.P0011840  | 6.649 | 2.733 | 6.649 | LOC10567334    | Homo sapiens low pore channel 3 pseudogenes (LOC10567334), long non-coding RNA [NR 037626]                                 |
| A.33.P3413087  | 6.644 | 2.732 | 6.644 | CLON5          | Homo sapiens chloride channel, voltage-sensitive 5 (CLON5), transcript variant 1, mRNA [NM 00127899]                       |
| A.24.P17157    | 6.642 | 2.732 | 6.642 | RIMKLB         | Homo sapiens ribosomal modification protein rimk-like family member B (RIMKLB), transcript variant 1, mRNA [NM 0207334]    |
| A.32.P471685   | 6.642 | 2.732 | 6.642 | RTN2           | Homo sapiens reticulon 2 (RTN2), transcript variant 2, mRNA [NM 00128241]  |
| A.33.P335825   | 6.641 | 2.731 | 6.641 | ANXA11         | Homo sapiens annexin A11 (Source:HGNC Symbol;Acc:HGNC:47463) [ENST00000442693], transcript variant 1, mRNA [NM 153248]     |
| A.23.P348183   | 6.633 | 2.730 | 6.633 | OherP23        | Homo sapiens OherP23 (OherP23), transcript variant 1, mRNA [NM 002002]   |
| A.22.P00007978 | 6.632 | 2.729 | 6.632 | DSS            | Homo sapiens disintegrin 2 (DSS), transcript variant 1, mRNA [NM 002002]   |
| A.33.P2422367  | 6.625 | 2.728 | 6.625 |                |  |
| A.21.P0011950  | 6.624 | 2.728 | 6.624 |                |  |
| A.22.P00002225 | 6.620 | 2.727 | 6.620 | inc-C1orf103-2 | MIR4435-1 host gene (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:35163] [ENST00000491884]                             |
| A.21.P0000194  | 6.609 | 2.724 | 6.609 | QBP1NG_HUMAN   | QBP1NG_HUMAN (QBP1NG) USP54 protein (Fragment), partial (12%) [CH02754395]   |
| A.22.P00020612 | 6.608 | 2.724 | 6.608 | inc-C1SD2-1    | Homo sapiens cDNA FLJ38037, fig. clone TEST12017296, [AK098336]  |
| A.22.P00020818 | 6.607 | 2.724 | 6.607 | inc-KLHL35-1   | HHAGE02475 Human liver regeneration after partial hepatectomy Homo sapiens cDNA, mRNA sequence [D4429745]                  |
| A.23.P382358   | 6.604 | 2.723 | 6.604 | GDA            | PREDICTED: Homo sapiens uncharacterized LOC101930246 (LOC101930246), transcript variant X2, mRNA [XR 292239]               |
| A.21.P00119400 | 6.598 | 2.722 | 6.598 |                |  |
| A.33.P3209862  | 6.593 | 2.721 | 6.593 | RASGRP2        | Homo sapiens RAS guanyl releasing protein 2 (calcium and DAG-regulated) (RASGRP2), transcript variant 2, mRNA [NM 153819]  |
| A.23.P320269   | 6.592 | 2.721 | 6.592 | ZNF165         | Homo sapiens zinc finger protein 165 (ZNF165), mRNA [NM 033447]  |
| A.23.P361641   | 6.589 | 2.720 | 6.589 | RIMKLB         | Homo sapiens zinc finger protein 165 (ZNF165), mRNA [NM 033447]  |
| A.23.P74088    | 6.584 | 2.719 | 6.584 | MMP23B         | Homo sapiens matrix metalloproteinase 23B (MMP23B), mRNA [NM 006881]   |
| A.23.P435120   | 6.583 | 2.719 | 6.583 | TMEM106A       | Homo sapiens transmembrane protein 106A (TMEM106A), transcript variant 2, mRNA [NM 148041]                                 |
| A.33.P3213516  | 6.576 | 2.717 | 6.576 | GAT1A2-AS1     | Homo sapiens cDNA FLJ21000, fig. clone CAE03359, [AK024653]  |
| A.24.P413689   | 6.575 | 2.717 | 6.575 | PFHFB2         | Homo sapiens 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 2 (PFHFB2), transcript variant 2, mRNA [NM 001018059]    |
| A.33.P3303365  | 6.574 | 2.717 | 6.574 | DSCAM          | Homo sapiens Down syndrome cell adhesion molecule (DSCAM), transcript variant 2, mRNA [NM 001271534]                       |
| A.23.P320939   | 6.573 | 2.716 | 6.573 | SPINK6         | Homo sapiens serine peptidase inhibitor, Kazal type 6 (SPINK6), transcript variant 1, mRNA [NM 205841]                     |
| A.24.P018401   | 6.565 | 2.715 | 6.565 | GKMT2-AS1      | Homo sapiens serine peptidase inhibitor, Kazal type 6 (SPINK6), transcript variant 1, mRNA [NM 205841]                     |
| A.33.P3230168  | 6.558 | 2.713 | 6.558 | NALCN          | Homo sapiens sodium leak channel, non-selective (NALCN), mRNA [NM 002897]  |
| A.33.P3393971  | 6.558 | 2.713 | 6.558 | PRPH1          | Homo sapiens sodium leak channel, non-selective (NALCN), mRNA [NM 002897]  |
| A.23.P200806   | 6.554 | 2.712 | 6.554 | SEC1HL1        | Homo sapiens sodium leak channel, non-selective (NALCN), mRNA [NM 002897]  |
| A.33.P3219827  | 6.545 | 2.710 | 6.545 | RTN2           | Homo sapiens SEC1HL1 (S. cerevisiae) (SEC1HL1), transcript variant c, mRNA [NM 003003]                                     |
| A.23.P3219827  | 6.540 | 2.709 | 6.540 | ELAVL4         | Homo sapiens ELAV, fatty acid elongase 4 (ELOVL4), mRNA [NM 022726]  |
| A.22.P00002818 | 6.529 | 2.707 | 6.529 | HIFX-AS1       | Homo sapiens HIFX antisense RNA 1 (HIFX-AS1), long non-coding RNA [NR 026881]  |
| A.21.P0001888  | 6.527 | 2.706 | 6.527 | inc-PTGFR-1    | LINGDIN1 (inc-PTGFR-1), lincRNA [inc-PTGFR-1, 1]   |
| A.23.P246244   | 6.527 | 2.706 | 6.527 | DXR1           | LOC102461824 [Source:HGNC Symbol;Acc:HGNC:15822] [ENST00000491705]   |
| A.23.P10007    | 6.521 | 2.705 | 6.521 | HMMR           | Homo sapiens hyaluronan-mediated motility receptor (HMMR) (HMMR), transcript variant 2, mRNA [NM 012484]                   |

|                |       |       |       |    |              |   |
|----------------|-------|-------|-------|----|--------------|---|
| A.33.P333188   | 6.519 | 2.705 | 6.519 | up | ARI GAP23    | Homo sapiens Rho GTPase activating protein 23 (ARI GAP23), mRNA [NM.001194417]  |
| A.21.P0000160  | 6.502 | 2.701 | 6.502 | up | TMSF19       | Homo sapiens transmembrane 4 L six family member 19 (TMSF19), transcript variant 1, mRNA [NM.138461]  |
| A.22.P00010217 | 6.491 | 2.699 | 6.491 | up | OLFML1       | Homo sapiens olfactomedin-like 1 (OLFML1), mRNA [NM.198474]   |
| A.23.P147665   | 6.489 | 2.688 | 6.489 | up | STGALNAC3    | Homo sapiens ST6 (alpha-N-acetyl-neuraminyl-2,3-bisectin-galactosyl-1,3)-N-acetylglucosaminide alpha-2,6-sialyltransferase 3 (STGALNAC3), transcript variant 2, mRNA [NM.001160011] |
| A.33.P3275955  | 6.484 | 2.697 | 6.484 | up | FAM221A      | Homo sapiens family with sequence similarity 221, member A (FAM221A), transcript variant 1, mRNA [NM.1981386]   |
| A.33.P3308137  | 6.469 | 2.693 | 6.469 | up | LOC102723542 | Homo sapiens uncharacterized LOC102723542, long non-coding RNA [NR.060379]  |
| A.33.P3291619  | 6.451 | 2.692 | 6.451 | up | TRPV4        | Homo sapiens transient receptor potential cation channel, subfamily V, member 4 (TRPV4), transcript variant 2, mRNA [NM.172900]   |
| A.24.P13381    | 6.451 | 2.681 | 6.451 | up | BLUB1B       | Homo sapiens blueberry 1B (BLUB1B), mRNA [NM.001211]  |
| A.23.P163481   | 6.451 | 2.680 | 6.451 | up | ACTA1        | Homo sapiens actin, alpha 1, skeletal muscle (ACTA1), mRNA [NM.001100]  |
| A.23.P11102    | 6.447 | 2.689 | 6.447 | up | LOC102723542 | long cancer associated transcript 1 (non-protein coding) [Source:HGNC Symbol:Acc:HNG:48488] [ENS:00000513026]   |
| A.21.P0004568  | 6.445 | 2.688 | 6.445 | up | ARD5B        | PREDICTED: Homo sapiens uncharacterized LOC102723542 (LOC102723542), transcript variant X2, misc. RNA [XR.428129]   |
| A.21.P0001551  | 6.444 | 2.688 | 6.444 | up | RIMKB        | Homo sapiens AT rich interactive domain 5E (MRP1-like) (ARD5B), transcript variant 1, mRNA [NM.032198]  |
| A.33.P3324860  | 6.440 | 2.687 | 6.440 | up | DOCK4        | Homo sapiens ribosomal modification protein rimK-like family member B (RIMKB), transcript variant 3, non-coding RNA [NR.123740]   |
| A.22.P00000129 | 6.430 | 2.685 | 6.430 | up | BLZF1        | Homo sapiens dedicator of cytokinesis 4 (DOCK4), mRNA [NM.014709]   |
| A.23.P396537   | 6.418 | 2.682 | 6.418 | up | MRK87        | Homo sapiens basic leucine zipper nuclear factor 1 (BLZF1), mRNA [NM.033966]  |
| A.33.P3935458  | 6.417 | 2.682 | 6.417 | up | EDN2         | Homo sapiens marker of proliferation Ki-67 (MKI67), transcript variant 1, mRNA [NM.002417]  |
| A.33.P3374205  | 6.411 | 2.680 | 6.411 | up | LOC100100938 | Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]   |
| A.21.P0001732  | 6.396 | 2.677 | 6.396 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.23.P312150   | 6.393 | 2.676 | 6.393 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.33.P3303425  | 6.387 | 2.675 | 6.387 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.21.P0006227  | 6.386 | 2.675 | 6.386 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.33.P3318668  | 6.383 | 2.674 | 6.383 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.23.P323266   | 6.382 | 2.674 | 6.382 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.23.P323266   | 6.379 | 2.673 | 6.379 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.23.P3232504  | 6.369 | 2.671 | 6.369 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.24.P32624    | 6.369 | 2.671 | 6.369 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 2, mRNA [NM.0010338595]   |
| A.32.P34920    | 6.360 | 2.669 | 6.360 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.32.P74409    | 6.357 | 2.668 | 6.357 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.23.P18541    | 6.352 | 2.667 | 6.352 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.21.P105072   | 6.351 | 2.667 | 6.351 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.21.P00012077 | 6.342 | 2.665 | 6.342 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.23.P330083   | 6.337 | 2.664 | 6.337 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant 1, long non-coding RNA [NR.126448]  |
| A.19.P00015452 | 6.329 | 2.662 | 6.329 | up | LOC100100938 | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 124 (LINCO124), transcript variant X1, misc. RNA [XR.110148]   |
| A.21.P0008282  | 6.315 | 2.659 | 6.315 | up | LOC100100938 | Homo sapiens long intergenic non-protein coding RNA 1467 (LINCO1467), long non-coding RNA [NR.110074]   |
| A.33.P3358914  | 6.313 | 2.658 | 6.313 | up | ARI GAP23    | Homo sapiens Rho GTPase activating protein 23 (ARI GAP23), mRNA [NM.001194417]  |
| A.33.P3250133  | 6.312 | 2.658 | 6.312 | up | VSIG10       | Homo sapiens V-set and immunoglobulin domain containing 10 (VSIG10), mRNA [NM.019086]   |
| A.23.P48669    | 6.307 | 2.657 | 6.307 | up | CDKN3        | Homo sapiens cyclin-dependent kinase inhibitor 3 (CDKN3), transcript variant 1, mRNA [NM.005192]  |
| A.33.P3381681  | 6.306 | 2.657 | 6.306 | up | C22orf62     | Homo sapiens chromosome 20 open reading frame 62 (C22orf62), mRNA [NM.001287807]  |
| A.21.P0001120  | 6.303 | 2.656 | 6.303 | up | TPTEP8       | Homo sapiens transmembrane phosphoinositide 3-phosphatase and tetra homolog 2 pseudogene 6 (TPTEP8), non-coding RNA [NR.002815]   |
| A.33.P3395028  | 6.296 | 2.652 | 6.296 | up | LOC192225    | Homo sapiens uncharacterized LOC192225 (LOC192225), long non-coding RNA [NR.026934]   |
| A.19.P00015502 | 6.294 | 2.652 | 6.294 | up | MTIF         | PREDICTED: Homo sapiens uncharacterized LOC102723721 (LOC102723721), mRNA [XR.424100]   |
| A.23.P15174    | 6.294 | 2.652 | 6.294 | up | MTIF         | Homo sapiens metalloproteinase 1F (MTIF), transcript variant 1, mRNA [NM.009969]  |
| A.23.P56356    | 6.291 | 2.651 | 6.291 | up | PLB1         | Homo sapiens phospholipase B1 (PLB1), transcript variant 1, mRNA [NM.159291]  |
| A.21.P3022841  | 6.272 | 2.649 | 6.272 | up | LOC101006395 | Homo sapiens uncharacterized LOC101006395 (LOC101006395), long non-coding RNA [NR.110179]   |
| A.21.P0013263  | 6.264 | 2.646 | 6.264 | up | LOC1213835   | Homo sapiens uncharacterized LOC1213835 (LOC1213835), long non-coding RNA [NR.110179]   |
| A.23.P167268   | 6.251 | 2.644 | 6.251 | up | AEBP1        | Homo sapiens AE binding protein 1 (AEBP1), mRNA [NM.0011291]  |
| A.33.P3319870  | 6.248 | 2.643 | 6.248 | up | GREM1        | Homo sapiens gremlin 1, DAN family BMP antagonist (GREM1), transcript variant 2, mRNA [NM.001191323]  |
| A.32.P42028    | 6.247 | 2.643 | 6.247 | up | TMEM200A     | Homo sapiens transmembrane protein 200A (TMEM200A), transcript variant 4, mRNA [NM.052913]  |
| A.33.P3353502  | 6.241 | 2.641 | 6.241 | up | PLGB4        | Homo sapiens phospholipase C, beta 4 (PLGB4), transcript variant 2, mRNA [NM.182797]  |
| A.33.P3338148  | 6.226 | 2.638 | 6.226 | up | MIR500HG     | Homo sapiens MIR500 host gene (non-protein coding) (MIR500HG), long non-coding RNA [NR.024607]  |
| A.33.P3402329  | 6.225 | 2.638 | 6.225 | up | POPP1-AS1    | metallothionein 1G, pseudogene [Source:HGNC Symbol:Acc:HNC:2395] [ENS:00000507054]  |
| A.33.P3231556  | 6.218 | 2.636 | 6.218 | up | POPP1-AS1    | Homo sapiens POPP1 antisense RNA 1 (POPP1-AS1), long non-coding RNA [NR.033972]   |
| A.33.P3821973  | 6.217 | 2.636 | 6.217 | up | LOC101006395 | LINGDella lincRNA (linc-CLDN6-1), lincRNA [linc-CLDN6-1]  |
| A.21.P0009001  | 6.216 | 2.636 | 6.216 | up | LOC12103814  | BROAD Institute lincRNA (LOC12103814), lincRNA [TCONS.0.0014569]  |
| A.21.P0011917  | 6.216 | 2.636 | 6.216 | up | SDOBP2       | Homo sapiens synuclein binding protein (synenin) 2 (SDOBP2), transcript variant 1, mRNA [NM.080489]   |
| A.23.P131899   | 6.215 | 2.636 | 6.215 | up | LOC3645553   | PREDICTED: Homo sapiens uncharacterized LOC3645553 (AC030282.9), misc. RNA [XR.244601]  |
| A.22.P0000852  | 6.211 | 2.635 | 6.211 | up | RPN2         | Homo sapiens polyoxalamin (RPN2), mRNA [NM.0072293]   |
| A.33.P3271455  | 6.204 | 2.634 | 6.204 | up | PPSKA2       | Homo sapiens peroxalamin protein S16 kinase, beta-like, polypeptide 2 (PPSKA2), transcript variant 1, mRNA [NM.0213195]   |
| A.33.P3389943  | 6.201 | 2.633 | 6.201 | up | LOC100100938 | Homo sapiens long intergenic non-protein coding RNA 1467 (LINCO1467), long non-coding RNA [NR.110074]   |
| A.24.P176831   | 6.198 | 2.632 | 6.198 | up | LOC100100938 | Homo sapiens long intergenic non-protein coding RNA 1467 (LINCO1467), long non-coding RNA [NR.110074]   |
| A.22.P0000964  | 6.192 | 2.630 | 6.192 | up | LOC100100938 | 458695-1 Swaves testis NHT Homo sapiens cDNA clone IMAGE72729 F1 similar to SWTMO HUMAN P22889 TROPOMODULIN, mRNA sequence [A292921]  |
| A.33.P3401422  | 6.190 | 2.630 | 6.190 | up | LIPM         | Homo sapiens lipase, family member M (LIPM), mRNA [NM.001129215]  |
| A.33.P3357189  | 6.187 | 2.629 | 6.187 | up | SH2D6        | Homo sapiens SH2 domain containing 6 (SH2D6), mRNA [NM.198482]  |





|                |       |       |       |    |  |
|----------------|-------|-------|-------|----|--|
| A_33_P3270250  | 5.841 | 2.546 | 5.841 | UP | transmembrane protein 191C [Source:HGNC Symbol;Acc:HGNC:33601] [ENST0000049424]  |
| A_23_P2315833  | 5.840 | 2.546 | 5.840 | UP | Homo sapiens aldehyde dehydrogenase domain containing 11 (ALDH11), transcript variant 1, mRNA [NM_146912]                                      |
| A_22_P00017122 | 5.838 | 2.545 | 5.838 | UP | PREDICTED: Homo sapiens uncharacterized LOC101924665 (RP11-130-22.9), ncRNA [XR_242542]  |
| A_33_P3010281  | 5.834 | 2.545 | 5.834 | UP | Homo sapiens astractin 1 (ASTN1), transcript variant 1, mRNA [NM_004319]   |
| A_33_P3376506  | 5.832 | 2.544 | 5.832 | UP | Homo sapiens family with sequence similarity 196, member B (FAM196B), mRNA [NM_001129891]  |
| A_33_P3944801  | 5.827 | 2.543 | 5.827 | UP | Homo sapiens Bcl2 modifying factor (BMF), transcript variant 1, mRNA [NM_001033940]  |
| A_33_P3287314  | 5.824 | 2.542 | 5.824 | UP | Homo sapiens forkhead box O3 (FOXO3), transcript variant 1, mRNA [NM_001445]   |
| A_24_P102062   | 5.818 | 2.540 | 5.818 | UP | Homo sapiens glucosylase, beta (bile acid) 2 (G6P2), mRNA [NM_020994]  |
| A_24_P341187   | 5.815 | 2.540 | 5.815 | UP | QSOX2, ARATH (QSOX2), Scarecrow-like 7 (SCL7), Arabidopsis thaliana (Arabidopsis thaliana) [LOC22724708]                                       |
| A_33_P3244834  | 5.812 | 2.539 | 5.812 | UP | Homo sapiens alpha 1B globulin family with sequence similarity 2 (A1BG2), mRNA [NM_0145262]  |
| A_23_P122758   | 5.792 | 2.534 | 5.792 | UP | APCDL1, antisense RNA 1 (head to head) (APCDL1-AS1), long non-coding RNA [NR_034437]   |
| A_22_P00017392 | 5.792 | 2.534 | 5.792 | UP | PREDICTED: Homo sapiens uncharacterized LOC101927352 (LOC101927352), ncRNA [XR_243924]   |
| A_21_P0010466  | 5.778 | 2.531 | 5.778 | UP | Homo sapiens long intergenic non-protein coding RNA 1564 (LINCO1564), long non-coding RNA [NR_125841]  |
| A_19_P00804243 | 5.775 | 2.530 | 5.775 | UP | LINCO1564  |
| A_24_P2260408  | 5.764 | 2.527 | 5.764 | UP | MGLL   |
| A_21_P0003080  | 5.763 | 2.527 | 5.763 | UP | PREDICTED: Homo sapiens uncharacterized LOC102723827 (LOC102723827), ncRNA [XR_243613]   |
| A_19_P00316467 | 5.761 | 2.526 | 5.761 | UP | long intergenic non-protein coding RNA 973 [Source:HGNC Symbol;Acc:HGNC:48888] [ENST00000473746]   |
| A_21_P0012831  | 5.755 | 2.525 | 5.755 | UP | Homo sapiens dedicator of cytokinesis 9 (DOCK9), transcript variant 4, mRNA [NM_001300595]   |
| A_23_P44380    | 5.756 | 2.525 | 5.756 | UP | Homo sapiens SH3 domain and tetrahydropteridine repeats 1 (SH3TC1), mRNA [NM_018986]   |
| A_23_P207106   | 5.751 | 2.524 | 5.751 | UP | Homo sapiens cholineergic receptor, nicotinic beta 1 (CHRNB1), mRNA [NM_000747]  |
| A_33_P3281795  | 5.750 | 2.523 | 5.750 | UP | Homo sapiens monoglyceride lipase (MGLL), transcript variant 1, mRNA [NM_007293]   |
| A_23_P345175   | 5.746 | 2.523 | 5.746 | UP | Homo sapiens coiled-coil domain containing 63 (CCDC63), transcript variant 1, mRNA [NM_152691]   |
| A_33_P3265749  | 5.732 | 2.519 | 5.732 | UP | Homo sapiens progesterone receptor 3 (subtype EP3) (PTGER3), transcript variant 7, mRNA [NM_186717]  |
| A_33_P3215832  | 5.728 | 2.518 | 5.728 | UP | Homo sapiens myosin protein zero-like 3 (MPZL3), transcript variant 1, mRNA [NM_188275]  |
| A_33_P3301469  | 5.726 | 2.518 | 5.726 | UP | Homo sapiens ankyrin repeat domain 905-like (ANKRD905L), transcript variant 1, non-coding RNA [NR_027019]                                      |
| A_22_P00003505 | 5.717 | 2.515 | 5.717 | UP | PREDICTED: Homo sapiens uncharacterized LOC101928884 (LOC101928884), ncRNA [XR_244659]   |
| A_23_P044921   | 5.716 | 2.515 | 5.716 | UP | Homo sapiens solid core carrier family 20 (phosphate transporter), member 2 (SLC20A2), transcript variant 2, mRNA [NM_005749]                  |
| A_30_P3031853  | 5.715 | 2.515 | 5.715 | UP | Homo sapiens phosphodiesterase 1C, calmodulin-dependent 70kDa (PDE1C), transcript variant 1, mRNA [NM_001191056]                               |
| A_33_P3391837  | 5.708 | 2.513 | 5.708 | UP | Homo sapiens uncharacterized LOC100288188 (LOC100288188), transcript variant 1, long non-coding RNA [NR_026882]                                |
| A_33_P3216984  | 5.705 | 2.512 | 5.705 | UP | Homo sapiens HECT and RLD domain containing E3 ubiquitin protein ligase 4 (HERC4), transcript variant 5, mRNA [NM_001278187]                   |
| A_33_P323166   | 5.698 | 2.510 | 5.698 | UP | Homo sapiens peroxidasin (PXDN), mRNA [NM_012293]  |
| A_33_P3212982  | 5.695 | 2.510 | 5.695 | UP | Homo sapiens pleckstrin homology domain containing, family M (with RUN domain), member 1 (PLEKHM1), transcript variant 1, mRNA [NM_014798]     |
| A_23_P21152    | 5.694 | 2.510 | 5.694 | UP | Homo sapiens septin 3 (SEPT3), transcript variant 4, mRNA [NM_145733]  |
| A_33_P366904   | 5.687 | 2.508 | 5.687 | UP | Homo sapiens long intergenic non-protein coding RNA, p53 induced transcript (LINC-PINT), transcript variant 3, long non-coding RNA [NR_088655] |
| A_19_P00320579 | 5.685 | 2.507 | 5.685 | UP | Homo sapiens long intergenic non-protein coding RNA, p53 induced transcript (LINC-PINT), transcript variant 3, long non-coding RNA [NR_088655] |
| A_32_P36072    | 5.684 | 2.507 | 5.684 | UP | Homo sapiens tetrahydrobiopterin (C1GH), mRNA [NM_007113]  |
| A_33_P32929213 | 5.680 | 2.506 | 5.680 | UP | Homo sapiens val guanine nucleotide dissociation stimulator-like 3 (RGL3), transcript variant 1, mRNA [NM_001161616]                           |
| A_23_P71530    | 5.679 | 2.506 | 5.679 | UP | Homo sapiens tumor necrosis factor receptor superfamily, member 11b (TNFRSF11B), mRNA [NM_002546]  |
| A_23_P200310   | 5.676 | 2.505 | 5.676 | UP | Homo sapiens DEP domain containing 1 (DEPDC1), transcript variant 2, mRNA [NM_017779]  |
| A_23_P403424   | 5.676 | 2.505 | 5.676 | UP | Homo sapiens JMJD7-PLAG4B readthrough (JMJD7-PLAG4B), transcript variant 1, mRNA [NM_005090]   |
| A_21_P0006731  | 5.665 | 2.502 | 5.665 | UP | K-EST0040859 S125NU216-Homo sapiens cDNA clone S125NU216-9-A12.9, mRNA sequence [BM76924]  |
| A_22_P0008976  | 5.664 | 2.502 | 5.664 | UP | QBDDJ9 PSEPK (QBDDJ9) Precorrin-2 C20-methyltransferase, partial (7N) [THG259936]  |
| A_23_P353667   | 5.663 | 2.501 | 5.663 | UP | Homo sapiens MIF7-2 host gene (non-protein coding) (MIF7-3HG), long non-coding RNA [NR_027188]   |
| A_33_P3217102  | 5.651 | 2.499 | 5.651 | UP | Homo sapiens solid core carrier family 10 (sodium/bile acid cotransporter), member 6 (SLC10A6), mRNA [NM_014943]                               |
| A_22_P0020228  | 5.643 | 2.487 | 5.643 | UP | QZ21503 TRACH13 Homo sapiens cDNA clone TRACH1302351.15, mRNA sequence [D8215096]  |
| A_23_P256205   | 5.643 | 2.486 | 5.643 | UP | Homo sapiens spectrin binding LIM protein family, member 3 (ASLIM3), transcript variant 2, mRNA [NM_014943]                                    |
| A_22_P0002128  | 5.643 | 2.486 | 5.643 | UP | Homo sapiens TMSF1 antisense RNA 1 (TMSF1-AS1), transcript variant 1, long non-coding RNA [NR_098099]  |
| A_33_P3269049  | 5.638 | 2.485 | 5.638 | UP | Homo sapiens chromosome 6 open reading frame 132 (C6orf132), mRNA [NM_001164446]   |
| A_23_P218355   | 5.638 | 2.485 | 5.638 | UP | PREDICTED: Homo sapiens unconventional myosin-Va-like (LOC102725053), miscRNA [XR_432412]  |
| A_21_P0002257  | 5.617 | 2.480 | 5.617 | UP | Homo sapiens RUN and SH3 domain containing 2 (RUSC2), transcript variant 2, mRNA [NM_014806]   |
| A_23_P216149   | 5.608 | 2.487 | 5.608 | UP | Homo sapiens uncharacterized LOC440117 (LOC440117), long non-coding RNA [NM_053970]  |
| A_33_P3854553  | 5.605 | 2.487 | 5.605 | UP | Homo sapiens 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3 (PFKFB3), transcript variant 1, mRNA [NM_004566]                           |
| A_24_P206604   | 5.605 | 2.487 | 5.605 | UP | Homo sapiens secretory leukocyte peptidase inhibitor (SLPI), mRNA [NM_005894]  |
| A_24_P190472   | 5.600 | 2.485 | 5.600 | UP | Homo sapiens uncharacterized LOC101928223 (LOC101928223), long non-coding RNA [NR_126889]  |
| A_21_P0003100  | 5.594 | 2.484 | 5.594 | UP | LINGPedia lincRNA (linc-A1262-1), lincRNA (linc-A1262-1), long non-coding RNA [NR_092730]  |
| A_33_P331680   | 5.592 | 2.481 | 5.592 | UP | Homo sapiens bromodomain containing 7 pseudogene 3 (BRD7.3), pseudogene 3 (BRD7.3), transcript variant 1, mRNA [NM_031910]                     |
| A_24_P211186   | 5.592 | 2.481 | 5.592 | UP | Homo sapiens Orl1 and tumor necrosis factor receptor protein 6 (OR11F6), transcript variant 1, mRNA [NM_0192983]                               |
| A_21_P0010042  | 5.578 | 2.480 | 5.578 | UP | PREDICTED: Homo sapiens uncharacterized LOC101928883 (LOC101928883), ncRNA [XR_253814]   |
| A_23_P201747   | 5.576 | 2.479 | 5.576 | UP | Homo sapiens beta(5d) arginine domain type II (PAD2), mRNA [NM_007365]   |
| A_33_P3309744  | 5.573 | 2.478 | 5.573 | UP | Homo sapiens lamina, alpha 4 (LAMA4), transcript variant 1, mRNA [NM_001105206]  |
| A_33_P3248833  | 5.567 | 2.477 | 5.567 | UP | Homo sapiens interleukin 1 receptor antagonist (IL1RN), transcript variant 4, mRNA [NM_173843]   |
| A_33_P3280699  | 5.560 | 2.475 | 5.560 | UP |  |

|                |       |       |       |              |   |
|----------------|-------|-------|-------|--------------|---|
| A.21.P012308   | 5.550 | 2.475 | 5.559 | RGMA         | Homo sapiens repulsive guidance molecule family member 4 (RGMA), transcript variant 4, mRNA [NM_002211]                               |
| A.21.P0000703  | 5.558 | 2.475 | 5.558 | OSMR         | Homo sapiens oncostatin M receptor (OSMR), transcript variant 2, mRNA [NM_001183959]  |
| A.23.P101888   | 5.550 | 2.472 | 5.550 | BCL2L1       | Homo sapiens BCL2-like 1 (BCL2L1), transcript variant 1, mRNA [NM_138578]   |
| A.33.P3314566  | 5.544 | 2.471 | 5.544 | PPM1K        | protein phosphatase, Mg <sup>2+</sup> /Mn <sup>2+</sup> -dependent, 1K (SourceHGNC SymbolAccHGNC:25415) [ENS100000506423]             |
| A.24.P226970   | 5.539 | 2.470 | 5.539 | ZNF395       | Homo sapiens zinc finger protein 395 (ZNF395), transcript variant A, mRNA [NM_014951]   |
| A.33.P3353791  | 5.538 | 2.469 | 5.538 | ITGA2        | Homo sapiens integrin, alpha 1 (ITGA2), mRNA [NM_181501]  |
| A.23.P0012405  | 5.536 | 2.469 | 5.536 | HMGCA2       | Homo sapiens high mobility group A1-like 2 (HMGCA2), transcript variant 1, mRNA [NM_003483]   |
| A.22.P0016286  | 5.522 | 2.465 | 5.522 | PASAD2-AS1   | Homo sapiens PASAD2 antisense RNA 1 (PASAD2-AS1), long non-coding RNA [NR_027362]   |
| A.22.P0013747  | 5.516 | 2.463 | 5.516 | CEP350       | Homo sapiens centrosomal protein 350 (CEP350), mRNA [NM_001082482]  |
| A.22.P00011259 | 5.515 | 2.463 | 5.515 | CEP350-2     | CGD/GM12898 antisense RNA 2 (CEP350-2), mRNA [NM_1742351428]  |
| A.33.P3251299  | 5.512 | 2.462 | 5.512 | CEP350-1     | CGD/GM12898 antisense RNA 1 (CEP350-1), mRNA [NM_1742351428]  |
| A.23.P026764   | 5.511 | 2.462 | 5.511 | KRT14        | Homo sapiens skin and fibella associated protein 98 (GFAP48), mRNA [NM_001088723]   |
| A.22.P00003248 | 5.510 | 2.462 | 5.510 | PREDICTED1   | Homo sapiens uncharacterized LOC102723788 (LOC102723788), mRNA [XR_429743]  |
| A.23.P18622    | 5.509 | 2.462 | 5.509 | GDG4GEP2     | Homo sapiens GDG4G effector protein (fno, GTase binding), 2 (GDG4GEP2), cDNA clone MGC:21504 (IMAGE3882900), complete cds. [BC031489] |
| A.24.P106887   | 5.502 | 2.462 | 5.502 | ISTNA1       | Homo sapiens inositol-3-phosphate synthase 1 (ISTNA1), transcript variant 1, mRNA [NM_016388]   |
| A.33.P3361337  | 5.481 | 2.460 | 5.481 | TMEM184A     | Homo sapiens transmembrane protein 184A (TMEM184A), mRNA [NM_001097826]   |
| A.23.P104438   | 5.475 | 2.455 | 5.475 | MYPM         | Homo sapiens myoglobin (MYPM), transcript variant 1, mRNA [NM_032578]   |
| A.33.P3418125  | 5.467 | 2.451 | 5.467 | GLP1R1       | Homo sapiens GLP1 receptor-related 1 (GLP1R1), mRNA [NM_008651]   |
| A.23.P31873    | 5.466 | 2.451 | 5.466 | RAB11FIP1    | Homo sapiens RAB11 family interacting protein 1 (class 1) (RAB11FIP1), transcript variant 3, mRNA [NM_001028114]                      |
| A.33.P338262   | 5.465 | 2.450 | 5.465 | GDT1         | Homo sapiens chromatin licensing and DNA replication factor 1 (GDT1), mRNA [NM_036928]  |
| A.33.P324269   | 5.456 | 2.448 | 5.456 | PAX8         | Homo sapiens paired box 8 (PAX8), transcript variant PAX8a, mRNA [NM_003486]  |
| A.33.P337154   | 5.451 | 2.447 | 5.451 | LOC109274545 | PREDICTED1: Homo sapiens uncharacterized LOC109274545 (LOC109274545), transcript variant X1, cDNA [XR_462228]                         |
| A.33.P3405904  | 5.439 | 2.443 | 5.439 | PPI1         | Homo sapiens PPI 5'-to-3' DNA helixase (PPI 1), transcript variant 2, mRNA [NM_025044]  |
| A.23.P416468   | 5.437 | 2.443 | 5.437 | OPHN1        | Homo sapiens oliphonin 1 (OPHN1), mRNA [NM_002471]  |
| A.33.P32718118 | 5.436 | 2.443 | 5.436 | POBP1        | Homo sapiens oliphonin 1 (OPHN1), mRNA [NM_002471]  |
| A.33.P3307795  | 5.432 | 2.442 | 5.432 | POBP1-AS1    | Homo sapiens POBP1 antisense RNA 1 (POBP1-AS1), long non-coding RNA [NR_033872]   |
| A.33.P30817004 | 5.431 | 2.441 | 5.431 | MYEF2        | Homo sapiens myelin expression factor 2 (MYEF2), transcript variant 1, mRNA [NM_016192]   |
| A.33.P3641427  | 5.427 | 2.440 | 5.427 | MYEF2        | splicing variant 18 pseudogene 3 [SourceHGNC SymbolAccHGNC:3861] [ENS100000565670]  |
| A.33.P3233869  | 5.426 | 2.440 | 5.426 | TREX2        | Homo sapiens three prime repair exonuclease 2 (TREX2), mRNA [NM_080701]   |
| A.33.P3383856  | 5.424 | 2.439 | 5.424 | LINC01348    | Homo sapiens long intergenic non-protein coding RNA 1348 (LINC01348), long non-coding RNA [NR_027454]                                 |
| A.33.P3407566  | 5.424 | 2.439 | 5.424 | LINC01348    | Homo sapiens long intergenic non-protein coding RNA 1348 (LINC01348), long non-coding RNA [NR_027454]                                 |
| A.21.P0007256  | 5.414 | 2.437 | 5.414 | GDH1B        | EST181906: Jukrat T-cells V: Homo sapiens cDNA 5' end, mRNA sequence [AJ310927]   |
| A.22.P0007072  | 5.413 | 2.437 | 5.413 | GDH1B        | Homo sapiens cadherin 16, KSP-sulfher (GDH1B), transcript variant 1, mRNA [NM_004082]   |
| A.33.P3306504  | 5.408 | 2.435 | 5.408 | ISTNA1       | Homo sapiens inositol-3-phosphate synthase 1 (ISTNA1), transcript variant 1, mRNA [NM_016388]   |
| A.33.P3306504  | 5.406 | 2.435 | 5.406 | PDE2A        | Homo sapiens phosphodiesterase 2A, cGMP-stimulated (PDE2A), transcript variant 1, mRNA [NM_001040214]                                 |
| A.23.P401106   | 5.399 | 2.433 | 5.399 | ALOC1213554  | Rho GTPase activating protein 23 pseudogene 1 [SourceHGNC SymbolAccHGNC:45038]  |
| A.21.P0013262  | 5.395 | 2.432 | 5.395 | ALOC1213554  | Rho GTPase activating protein 23 pseudogene 1 [SourceHGNC SymbolAccHGNC:45038]  |
| A.33.P3407592  | 5.395 | 2.429 | 5.395 | ALOC1213554  | Rho GTPase activating protein 23 pseudogene 1 [SourceHGNC SymbolAccHGNC:45038]  |
| A.23.P214887   | 5.384 | 2.429 | 5.384 | KAP12        | Homo sapiens A kinase (PRKA) anchor protein 12 (KAP12), transcript variant 2, mRNA [NM_144487]  |
| A.32.P100530   | 5.383 | 2.428 | 5.383 | KIF19        | Homo sapiens kinesin family member 19 (KIF19), mRNA [NM_153206]   |
| A.23.P302324   | 5.377 | 2.427 | 5.377 | CARD11       | Homo sapiens caspase recruitment domain family, member 11 (CARD11), mRNA [NM_024215]  |
| A.23.P170213   | 5.371 | 2.425 | 5.371 | NKAIN2       | Homo sapiens Na <sup>+</sup> /K <sup>+</sup> transporting ATPase interacting 2 (NKAIN2), transcript variant 1, mRNA [NM_001040214]    |
| A.23.P100711   | 5.366 | 2.424 | 5.366 | PMP22        | Homo sapiens peripheral myelin protein 22 (PMP22), transcript variant 1, mRNA [NM_000304]   |
| A.22.P00018802 | 5.363 | 2.423 | 5.363 | INC-MITRR-6  | RST12929: Atherys BAGE Library: Homo sapiens cDNA, mRNA sequence [BG203545]   |
| A.23.P432613   | 5.362 | 2.423 | 5.362 | ZPLD1        | Homo sapiens zona pallidum-like domain containing 1 (ZPLD1), mRNA [NM_175656]   |
| A.33.P3246972  | 5.360 | 2.422 | 5.360 | GULP4        | Homo sapiens CAP-GLY domain containing linker protein family member 4 (GULP4), transcript variant 3, mRNA [NM_001287528]              |
| A.23.P32824    | 5.354 | 2.421 | 5.354 | POPEP1       | Homo sapiens pygostilary phosphatase 1 (POPEP1), transcript variant 1, mRNA [NM_017172]   |
| A.22.P0001582  | 5.353 | 2.420 | 5.353 | DNAH2-AS1    | Homo sapiens DNAH2 antisense RNA 1 (DNAH2-AS1), long non-coding RNA [NR_123391]   |
| A.23.P18427    | 5.353 | 2.420 | 5.353 | MMP2K3       | Homo sapiens mitogen-activated protein kinase kinase 3 (MMP2K3), transcript variant 5, mRNA [NM_149108]                               |
| A.21.P1331     | 5.353 | 2.420 | 5.353 | COL13A1      | Homo sapiens collagen, type XIII, alpha 1 (COL13A1), transcript variant 5, mRNA [NM_008801]   |
| A.22.P00015972 | 5.343 | 2.418 | 5.343 | INC-SRBD1-2  | LUCS248: Atherys BAGE Library: Homo sapiens cDNA, mRNA sequence [BG203683]  |
| A.33.P3216207  | 5.342 | 2.417 | 5.342 | LOC108607481 | RST12929: Atherys BAGE Library: Homo sapiens cDNA, mRNA sequence [BG203683]   |
| A.21.P0014889  | 5.341 | 2.417 | 5.341 | ERBB3        | Homo sapiens uncharacterized LOC108607481 (LOC108607481), long non-coding RNA [NR_123383]   |
| A.23.P494416   | 5.341 | 2.417 | 5.341 | ERBB3        | Homo sapiens v-erb-b2 avian erythroblastic leukemia viral oncogene homolog 3 (ERBB3), transcript variant 1, mRNA [NM_001982]          |
| A.22.P00019232 | 5.328 | 2.414 | 5.328 | LOC102724153 | Homo sapiens uncharacterized LOC102724153 (LOC102724153), long non-coding RNA [NR_105532]   |
| A.23.P166922   | 5.323 | 2.412 | 5.323 | CHST6        | Homo sapiens carbohydrate (N-acetyl)glucosamine 6-O sulfotransferase 6 (CHST6), mRNA [NM_021615]                                      |
| A.33.P3327642  | 5.319 | 2.411 | 5.319 | AIM1L        | Homo sapiens absent in melanoma 1-like (AIM1L), mRNA [NM_001039775]   |
| A.23.P37567    | 5.317 | 2.411 | 5.317 | DHHD1        | Homo sapiens dehydrated dehydrogenase (dimers) (DHHD1), mRNA [NM_014475]  |
| A.33.P323827   | 5.309 | 2.408 | 5.309 | LOC10018517  | Homo sapiens cDNA FL44820 fs. clone BRAGE346649 [AK128772]  |
| A.22.P00026647 | 5.303 | 2.407 | 5.303 | TMEM40       | PREDICTED1: Homo sapiens uncharacterized LOC102724075 (LOC102724075), mRNA [XR_424426]  |
| A.33.P3391418  | 5.297 | 2.405 | 5.297 | TMEM40       | Homo sapiens transmembrane protein 40 (TMEM40), transcript variant 3, mRNA [NM_001284407]   |
| A.22.P00005935 | 5.292 | 2.404 | 5.292 | ALOC12102433 | BROAD Institute: lincRNA (ALOC12102433), lincRNA [TCNS12_00054760]  |
| A.21.P001892   | 5.281 | 2.401 | 5.281 | DMKN         | Homo sapiens demodectin (DMKN), transcript variant 9, mRNA [NM_001082421]   |
| A.33.P3424577  | 5.269 | 2.398 | 5.269 | PREDICTED1   | Homo sapiens uncharacterized LOC100129181 (LOC100129181), transcript variant X2, mRNA [XR_109238]                                     |
| A.22.P00009979 | 5.260 | 2.396 | 5.260 | LOC100193781 | PREDICTED1: Homo sapiens uncharacterized LOC100129181 (LOC100129181), transcript variant X2, mRNA [XR_109238]                         |
| A.22.P00008615 | 5.256 | 2.394 | 5.256 | INC-ACOT12-2 | LINCgdata: lincRNA (INC-ACOT12-2), lincRNA [INC-ACOT12-2.1]   |
| A.22.P23947    | 5.252 | 2.393 | 5.252 | MAP3K8       | Homo sapiens mitogen-activated protein kinase kinase kinase 8 (MAP3K8), transcript variant 1, mRNA [NM_005204]                        |
| A.22.P00008322 | 5.247 | 2.392 | 5.247 | INC-ITGB8-4  | LINCgdata: lincRNA (INC-ITGB8-4), lincRNA [INC-ITGB8-4.1]   |

|                |       |       |       |                 |    |   |
|----------------|-------|-------|-------|-----------------|----|---|
| A.33.P331769   | 5.242 | 2.390 | 5.242 | KRTAP20-3       | up | Homo sapiens keratin associated protein 20-3 (KRTAP20-3), mRNA [NM_001126077]   |
| A.21.P0012547  | 5.237 | 2.389 | 5.237 | LIMS1-LOC440895 | up | Homo sapiens LIMS1-LOC440895 readthrough (LIMS1-LOC440895), long non-coding RNA [NR_027145]   |
| A.21.P000861   | 5.234 | 2.388 | 5.234 | LYC2            | up | Homo sapiens LYCH mRNA, complete cds. [AF233919]  |
| A.33.P3356306  | 5.232 | 2.387 | 5.232 | LOC100568403    | up | Homo sapiens uncharacterized LOC100568403 (LOC100568403), long non-coding RNA [NR_073912]   |
| A.19.P0021858  | 5.232 | 2.387 | 5.232 | DOCK9           | up | Homo sapiens dedicator of cytokinesis 9 (DOCK9), transcript variant 4, mRNA [NM_001300590]  |
| A.33.P3259271  | 5.231 | 2.387 | 5.231 | DOCK9           | up | Homo sapiens uncharacterized LOC294023 (LOC294023), long non-coding RNA [NR_024349]   |
| A.33.P323761   | 5.228 | 2.388 | 5.228 | S10P            | up | Homo sapiens S10 calcium binding protein 2 (S10P), mRNA [NM_005890]   |
| A.23.P35206    | 5.225 | 2.385 | 5.225 | inc-E202-1      | up | QZ1FR1 (BDRK) QZ1FR1 (BDRK)-asacetyl-GABA-cannabidiol ligase, partial (3), [THC2278144]   |
| A.21.P0003352  | 5.213 | 2.382 | 5.213 | TM2Z            | up | Homo sapiens ankyrin repeat domain 2 (TM2Z), transcript variant 1, mRNA [NM_024613]   |
| A.23.P32159    | 5.207 | 2.382 | 5.207 | TM2Z            | up | Homo sapiens ankyrin repeat domain 2 (TM2Z), transcript variant 2, mRNA [NM_024613]   |
| A.23.P32163    | 5.207 | 2.381 | 5.207 | TM2Z            | up | ALU2 HUMAN (P31818) Alu subfamily S6 sequence contamination remaining entry, partial (1%) [THC2279148]  |
| A.22.P0009933  | 5.202 | 2.380 | 5.202 | inc-ZFP98L1-2   | up | LINGGedia lincRNA (inc-ZFP98L1-2), lincRNA [inc-ZFP98L1-2]  |
| A.22.P00017612 | 5.192 | 2.379 | 5.192 | PDGFFB          | up | Homo sapiens platelet-derived growth factor beta polypeptide (PDGFFB), transcript variant 1, mRNA [NM_020609]                                   |
| A.24.P399844   | 5.187 | 2.376 | 5.187 | DSOX1           | up | Homo sapiens dsx1, homeobox domain 1 (DSOX1), transcript variant 2, mRNA [NM_001004129]   |
| A.33.P322268   | 5.187 | 2.375 | 5.187 | PA8X-AS1        | up | Homo sapiens PA8X antisense RNA 1 (PA8X-AS1), transcript variant 1, long non-coding RNA [NR_015377]   |
| A.22.P00012499 | 5.186 | 2.375 | 5.186 | MMA             | up | Homo sapiens melanoma inhibitory activity (MMA), transcript variant 1, mRNA [NM_005633]   |
| A.23.P4714     | 5.185 | 2.374 | 5.185 | DAPPI1          | up | Homo sapiens diacylglycerol acyltransferase 1 (DAPPI1), transcript variant 1, mRNA [NM_014385]  |
| A.23.P25544    | 5.176 | 2.372 | 5.176 | DLAGP5          | up | Homo sapiens discs, large (Drosophila) homolog-associated protein 5 (DLAGP5), transcript variant 1, mRNA [NM_014750]                            |
| A.23.P98331    | 5.169 | 2.370 | 5.169 | EPG5            | up | Homo sapiens ectopic P-granules autophagy protein 5 homolog (C.elegans) (EPG5), mRNA [NM_026954]  |
| A.24.P341923   | 5.169 | 2.370 | 5.169 | EPG5            | up | Homo sapiens coiled-coil domain containing 69 (CCDC69), mRNA [NM_011992]  |
| A.24.P39795    | 5.169 | 2.370 | 5.169 | CCDC69          | up | Homo sapiens lincRNA (inc-RP11-2810.1), l-4   |
| A.21.P39278    | 5.167 | 2.369 | 5.167 | AGVRIC          | up | Homo sapiens actin 4 receptor domain 1C (AGVRIC), transcript variant 1, mRNA [NM_045269]  |
| A.23.P397459   | 5.163 | 2.368 | 5.163 | RDH13           | up | Homo sapiens retinol dehydrogenase 13 (rdh13), transcript variant 2, mRNA [NM_138412]   |
| A.23.P39185    | 5.161 | 2.368 | 5.161 | inc-KLHDC9-1    | up | CIN44 HUMAN (Q18MY7) Protein G14rd44, partial (3), [THC22603114]  |
| A.22.P00021159 | 5.159 | 2.367 | 5.159 | ETVA1           | up | Homo sapiens ets variant 4 (ETVA1), transcript variant 2, mRNA [NM_001029675]   |
| A.24.P416346   | 5.159 | 2.367 | 5.159 | FBXL18          | up | Homo sapiens F-box and leucine-rich repeat protein 18 (FBXL18), mRNA [NM_00104963]  |
| A.24.P307854   | 5.158 | 2.367 | 5.158 | PSAPL1          | up | Homo sapiens prosolin-like 1, gene (psapln1), mRNA [NM_001095382]   |
| A.33.P3383004  | 5.154 | 2.366 | 5.154 | MTL1            | up | Homo sapiens metallothionein 1L (gene, Asaudegno) (MTL1), non-coding RNA [NR_001447]  |
| A.23.P427103   | 5.153 | 2.365 | 5.153 | SSH1            | up | Homo sapiens shingol protein phosphatase 1 (SSH1), transcript variant 3, mRNA [NM_001161331]  |
| A.24.P329447   | 5.146 | 2.363 | 5.146 | INGO1           | up | Homo sapiens mRNA, cDNA DKF268I0688 (from clone DKF268I0688), [BX647262]  |
| A.22.P00029818 | 5.145 | 2.363 | 5.145 | INGO1           | up | Homo sapiens NAD(P)H dehydrogenase, subunit 1 (INGO1), transcript variant 1, mRNA [NM_000803]   |
| A.23.P20661    | 5.142 | 2.362 | 5.142 | GITE2D          | up | Homo sapiens Oxy-p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2 (GITE2D), transcript variant 1, mRNA [NM_006079] |
| A.23.P214989   | 5.132 | 2.360 | 5.132 | RUNX3           | up | Homo sapiens runt-related transcription factor 3 (RUNX3), transcript variant 1, mRNA [NM_001031690]   |
| A.33.P321748   | 5.132 | 2.360 | 5.132 | RUNX3           | up | Homo sapiens cDNA FLJ30773, clone F6BR2409731, [AK053535]   |
| A.22.P00014542 | 5.129 | 2.359 | 5.129 | WTF22           | up | Homo sapiens Wp-four-deglike score domain 2 (WTF22), mRNA [NM_005103]   |
| A.22.P392887   | 5.116 | 2.358 | 5.116 | SH3DC2          | up | Homo sapiens SH3 domain containing 2 (SH3DC2), transcript variant 1, mRNA [NM_024277]   |
| A.24.P39558    | 5.117 | 2.355 | 5.117 | SH3DC2          | up | Homo sapiens SH3 domain containing 2 (SH3DC2), transcript variant 2, mRNA [NM_024277]   |
| A.23.P363769   | 5.113 | 2.355 | 5.113 | SH3DC2          | up | Homo sapiens SH3 domain containing 2 (SH3DC2), transcript variant 3, mRNA [NM_024277]   |
| A.22.P00036618 | 5.108 | 2.353 | 5.108 | inc-GDC42EP1-1  | up | LINGGedia lincRNA (inc-GDC42EP1-1), lincRNA [inc-GDC42EP1-1]  |
| A.23.P73037    | 5.098 | 2.349 | 5.098 | RG320           | up | Homo sapiens regulator of G-protein signaling 20 (RG320), transcript variant 1, mRNA [NM_120587]  |
| A.24.P206528   | 5.095 | 2.349 | 5.095 | PDE1C           | up | Homo sapiens phosphodiesterase 1C, calmodulin-dependent 70kDa (PDE1C), transcript variant 4, mRNA [NM_005020]                                   |
| A.23.P256413   | 5.090 | 2.348 | 5.090 | GNTM7           | up | Homo sapiens GNTM7-like MARVEL transmembrane domain containing 7 (GNTM7), transcript variant 1, mRNA [NM_138410]                                |
| A.33.P3228972  | 5.085 | 2.346 | 5.085 | RHCC1L          | up | Homo sapiens RH domain and coiled-coil containing 1-like (RHCC1L), transcript variant 1, mRNA [NM_001258161]                                    |
| A.24.P175044   | 5.079 | 2.345 | 5.079 | SNX9            | up | Homo sapiens sorting nexin 9 (SNX9), mRNA [NM_016924]   |
| A.19.P0031727  | 5.077 | 2.344 | 5.077 | LINC01127       | up | Homo sapiens long intergenic non-protein coding RNA 1127 (LINC01127), long non-coding RNA [NR_037971]   |
| A.23.P495477   | 5.075 | 2.343 | 5.075 | TMPPRS13        | up | Homo sapiens transmembrane protease, serine 13 (TMPPRS13), transcript variant 1, mRNA [NM_001077283]  |
| A.33.P321085   | 5.072 | 2.343 | 5.072 | NET1            | up | Homo sapiens neurospiralin cell transforming 1 (NET1), transcript variant 1, mRNA [NM_001047160]  |
| A.33.P3974010  | 5.069 | 2.342 | 5.069 | SHANK2          | up | Homo sapiens SH3 and multiple ankyrin repeat domains 2 (SHANK2), transcript variant 1, mRNA [NM_0210309]  |
| A.24.P365515   | 5.061 | 2.339 | 5.061 | FOXJ2           | up | Homo sapiens forkhead box A2 (FOXJ2), transcript variant 1, mRNA [NM_021784]  |
| A.22.P0003837  | 5.059 | 2.339 | 5.059 | inc-GD58-1      | up | OSWAS1-CHICK (Q5WMS1) Recombination-induced LIM protein (Eramochi), partial (15%), [THC2228217]   |
| A.23.P3317988  | 5.052 | 2.337 | 5.052 | SPINK9          | up | Homo sapiens serine peptidase inhibitor, Kazal type 9 (SPINK9), mRNA [NM_001040433]   |
| A.21.P0004420  | 5.049 | 2.336 | 5.049 | inc-AFRDC3-1    | up | LINGGedia lincRNA (inc-AFRDC3-1), lincRNA [inc-AFRDC3-1]  |
| A.23.P218597   | 5.047 | 2.336 | 5.047 | NPAS2           | up | Homo sapiens neuronal PAS domain protein 2 (NPAS2), mRNA [NM_002518]  |
| A.24.P102053   | 5.047 | 2.335 | 5.047 | DGLN            | up | Homo sapiens occludin (OCLN), transcript variant 1, mRNA [NM_002538]  |
| A.23.P206892   | 5.044 | 2.335 | 5.044 | B4GALNT3        | up | Homo sapiens beta-4-N-acetyl-galactosaminyl transferase 3 (B4GALNT3), mRNA [NM_173939]  |
| A.33.P3240787  | 5.044 | 2.335 | 5.044 | LINC001910      | up | Homo sapiens cDNA FLJ27192, clone SIND2553, [AK130702]  |
| A.23.P300372   | 5.043 | 2.334 | 5.043 | GRIA1           | up | Homo sapiens glutamate receptor, ionotropic, AMPA 1 (GRIA1), transcript variant 1, mRNA [NM_000827]   |
| A.24.P322351   | 5.041 | 2.334 | 5.041 | RAP1GAP2        | up | Homo sapiens RAP1 GTPase activating protein 2 (RAP1GAP2), transcript variant 1, mRNA [NM_015085]  |
| A.33.P333146   | 5.038 | 2.333 | 5.038 | OCLN            | up | Homo sapiens occludin (OCLN), transcript variant 1, mRNA [NM_002538]  |
| A.23.P32672    | 5.038 | 2.333 | 5.038 | OCLN            | up | long intergenic non-protein coding RNA 404 [Source:HGNC Symbol;Acc:NC_027374]   |
| A.22.P00020193 | 5.032 | 2.331 | 5.032 | BLCD1           | up | Homo sapiens phospholipase C, delta 1 (BLCD1), transcript variant 2, mRNA [NM_009226]   |
| A.22.P390719   | 5.031 | 2.331 | 5.031 | GGC1            | up | Homo sapiens phospholipase C, delta 1 (BLCD1), transcript variant 1, mRNA [NM_009226]   |
| A.33.P3415912  | 5.030 | 2.331 | 5.030 | GGC1            | up | Homo sapiens phospholipase C, delta 1 (BLCD1), transcript variant 1, mRNA [NM_009226]   |
| A.21.P0009287  | 5.024 | 2.329 | 5.024 | inc-FSONG-1     | up | ALU7 HUMAN (P31814) Alu subfamily S6 sequence contamination remaining entry, partial (1%) [THC2271123]  |
| A.19.P00320354 | 5.020 | 2.328 | 5.020 | BROAD           | up | Broad Institute lincRNA (LOC1013542), lincRNA [TCONS 2_0026141]   |
| A.22.P00010128 | 5.010 | 2.325 | 5.010 | LOC101927907    | up | Homo sapiens uncharacterized LOC101927907, long non-coding RNA [NR_102884]  |



|                |       |       |       |               |  |
|----------------|-------|-------|-------|---------------|--|
| A.19.P0032977  | 4.617 | 2.268 | 4.617 | LINC-PINT     | Homo sapiens long intergenic non-protein coding RNA p33 induced transcript (LINC-PINT), transcript variant 2, long non-coding RNA [NR_108654]                          |
| A.23.P54929    | 4.814 | 2.267 | 4.814 | LYRM1         | Homo sapiens LYR motif containing 1 (LYRM1), transcript variant 1, mRNA [NM_020424]  |
| A.24.P281636   | 4.806 | 2.265 | 4.806 |               | tripartite motif containing 64E, pseudogene [Source:HGNC Symbol;Acc:HGNC:43975] [ENS:00000651233]  |
| A.23.P33470    | 4.805 | 2.265 | 4.805 | TMEM17        | Homo sapiens transmembrane protein 217 (TMEM17), transcript variant 1, mRNA [NM_145316]  |
| A.33.P769409   | 4.804 | 2.264 | 4.804 | LMO1-1        | Homo sapiens lmo1-related LOC101928973 (LMO1-1), long non-coding RNA [NR_129666]   |
| A.33.P767403   | 4.800 | 2.263 | 4.800 | AT19B         | Homo sapiens autophagy related 9B (AT19B), transcript variant 2, non-coding RNA [NR_073169]  |
| A.24.P150466   | 4.796 | 2.262 | 4.796 | SMOC1         | Homo sapiens SPARC related modular calcium binding 1 (SMOC1), transcript variant 1, mRNA [NM_001034852]  |
| A.32.P70188    | 4.795 | 2.262 | 4.795 | LILRB3        | Homo sapiens leucocyte immunoglobulin-like receptor subfamily B (with TM and ITIM domains), member 3 (LILRB3), transcript variant 2, mRNA [NM_006864]                  |
| A.33.P327424   | 4.794 | 2.261 | 4.794 | RETSAT        | retsat cut site (ret-sens-retint) (3,14-reducers) [Source:HGNC Symbol;Acc:HGNC:25991] [ENS:00000490291]  |
| A.33.P325389   | 4.792 | 2.261 | 4.792 |               | HS2BHS1, Homo sapiens (easb, wgs-1, cas-0), partial (84%), [HIC2623717]  |
| A.21.P0013886  | 4.788 | 2.259 | 4.788 | TFTE2         | Homo sapiens transmembrane phosphoinositide 3-kinase and tensin homolog 2 (TFTE2), transcript variant 3, mRNA [NM_189254]  |
| A.22.P0006824  | 4.788 | 2.259 | 4.788 | inc-ERAL1-1   | DNFZP81J1536.s1.781 (synonym: hscA) Homo sapiens cDNA clone DKFZb781J1536.3, mRNA [NM_001043852]   |
| A.23.P42397    | 4.785 | 2.258 | 4.785 | PRSS35        | Homo sapiens protease, serine, 35 (PRSS35), transcript variant 2, mRNA [NM_153362]   |
| A.32.P148345   | 4.781 | 2.257 | 4.781 | ANKA2         | Homo sapiens annexin A2 (ANKA2), transcript variant 2, mRNA [NM_001002857]   |
| A.23.P256603   | 4.781 | 2.257 | 4.781 | MULT4         | Homo sapiens myoblast/lymphoid or mixed-lineage leukemia (critcherx homolog, Drosophila), translocated to 4 (MULT4), transcript variant 1, mRNA [NM_001207008]         |
| A.24.P160989   | 4.775 | 2.255 | 4.775 | TP53I11       | Homo sapiens tumor protein p53 inducible protein 11 (TP53I11), transcript variant 1, mRNA [NM_001293290]   |
| A.33.P327620   | 4.773 | 2.255 | 4.773 | MX2           | MX domain-like GTPase 2 [Source:HGNC Symbol;Acc:HGNC:7533] [ENS:00000496892]   |
| A.21.P0014153  | 4.773 | 2.255 | 4.773 | LOC10274201   | Homo sapiens uncharacterized LOC102742001 (LOC102742001), transcript variant 1, long non-coding RNA [NR_123870]  |
| A.23.P218676   | 4.771 | 2.254 | 4.771 | MEFC2         | Homo sapiens EGF repeat domain like, domain 2 (MEFC2), mRNA [NM_006103]  |
| A.23.P24148    | 4.771 | 2.254 | 4.771 | LYPD5         | Homo sapiens LY6/PLAUR domain containing 2 (LYPD5), mRNA [NM_025845]   |
| A.24.P323148   | 4.765 | 2.252 | 4.765 | LYPD5         | Homo sapiens LY6/PLAUR domain containing 5 (LYPD5), transcript variant B, mRNA [NM_182573]   |
| A.21.P0012446  | 4.759 | 2.251 | 4.759 | XLOC12.010239 | BROAD inhibits lincRNA XLOC12.010239, lincRNA [TCONS 2, 00018354]  |
| A.22.P0006933  | 4.758 | 2.250 | 4.758 | LINC00482     | Homo sapiens long intergenic non-protein coding RNA 482 (LINC00482), long non-coding RNA [NR_038080]   |
| A.22.P00007919 | 4.757 | 2.250 | 4.757 | DSS           | Homo sapiens disulfate 2-sulfatase (DSS), transcript variant 2, mRNA [NM_006123]   |
| A.33.P322273   | 4.757 | 2.250 | 4.757 | GSDOX1        | Homo sapiens gsdox1, G6 sulfhydryl oxidase 1 (GSDOX1), transcript variant 2, mRNA [NM_004128]  |
| A.23.P301336   | 4.756 | 2.250 | 4.756 | RHCC1L        | Homo sapiens RH1 domain and coiled-coil containing 1-like (RHCC1L), transcript variant 4, mRNA [NM_014472]   |
| A.33.P3237517  | 4.756 | 2.250 | 4.756 | ZNF292        | zinc finger protein 292 [Source:HGNC Symbol;Acc:HGNC:18410] [ENS:00000689578]  |
| A.24.P82004    | 4.755 | 2.250 | 4.755 | MALL          | Homo sapiens mal T-cell differentiation protein-like (MALL), mRNA [NM_005434]  |
| A.22.P0003332  | 4.753 | 2.249 | 4.753 | inc-CAST-2    | AF10607 retroviral-derived luciferase aminopeptidase Homo sapiens (exp-1, wgs-0, cp-0), partial (8%) [HIC2901892]  |
| A.33.P327630   | 4.736 | 2.244 | 4.736 | FAM64A1       | Homo sapiens family with sequence similarity 90, member A1 (FAM64A1), mRNA [NM_018093]   |
| A.33.P3261743  | 4.736 | 2.244 | 4.736 | SLC37A2       | Homo sapiens solute carrier family 37 (glucose-6-phosphate transporter), member 2 (SLC37A2), transcript variant 2, mRNA [NM_016292]                                    |
| A.23.P161797   | 4.736 | 2.244 | 4.736 | USP82         | transcript variant 2, mRNA [NM_016292]   |
| A.21.P003304   | 4.733 | 2.243 | 4.733 | LINC001437-3  | LINC001437-3, lincRNA [inc-TNFRSF10B-3]  |
| A.23.P166848   | 4.730 | 2.242 | 4.730 | LIF           | Homo sapiens leucine inhibitory factor (LIF), transcript variant 1, mRNA [NM_002343]   |
| A.23.P307310   | 4.727 | 2.241 | 4.727 | ACAN          | Homo sapiens aggrecan (ACAN), transcript variant 2, mRNA [NM_013227]   |
| A.23.P50815    | 4.722 | 2.239 | 4.722 | ITVH1         | Homo sapiens twenty family member 1 (ITVH1), transcript variant 1, mRNA [NM_020659]  |
| A.33.P3427239  | 4.720 | 2.239 | 4.720 | LOC100104937  | Homo sapiens cDNA clone IMAGE3263734, [BC0263129]  |
| A.23.P14774    | 4.719 | 2.238 | 4.719 | CTSH          | Homo sapiens cathepsin H (CTSH), mRNA [NM_004390]  |
| A.33.P3270787  | 4.718 | 2.238 | 4.718 | EPH2Z         | Homo sapiens EPH receptor B2 (EPH2Z), transcript variant 2, mRNA [NM_004442]   |
| A.23.P141902   | 4.715 | 2.237 | 4.715 | SEPPINB7      | Homo sapiens serpin peptidase inhibitor, clade B (ovalbumin), member 7 (SEPPINB7), transcript variant 2, mRNA [NM_001040147]   |
| A.23.P144123   | 4.710 | 2.236 | 4.710 | SLC22A13      | Homo sapiens solute carrier family 22 (organic anion/urate transporter), member 13 (SLC22A13), mRNA [NM_004256]  |
| A.24.P356138   | 4.705 | 2.234 | 4.705 | GABARAPL2     | Homo sapiens GABA(A) receptor-associated protein-like 2 (GABARAPL2), mRNA [NM_007285]  |
| A.22.P0015943  | 4.700 | 2.233 | 4.700 | SPAG5-AS1     | Homo sapiens SPAG5 antisense RNA 1 (SPAG5-AS1), long non-coding RNA [NR_046012]  |
| A.23.P107246   | 4.699 | 2.232 | 4.699 | YSJG1L        | Homo sapiens Y-set and immunoglobulin domain containing 10 like YSJG10L, mRNA [NM_001163922]   |
| A.23.P29133    | 4.699 | 2.232 | 4.699 | RSPH14        | Homo sapiens radial spoke head 14 homolog (Chlamydomonas) (RSPH14), mRNA [NM_0174433]  |
| A.22.P0001266  | 4.689 | 2.228 | 4.689 | inc-CAH5A-1   | Homo sapiens cDNA clone DKFZ468E182Z, lincRNA [inc-ZNF445] [ENS:00000591612]   |
| A.22.P0001265  | 4.685 | 2.228 | 4.685 | inc-CAH5A-1   | Homo sapiens cDNA clone DKFZ468E182Z, lincRNA [inc-ZNF445] [ENS:00000591612]   |
| A.24.P133264   | 4.683 | 2.227 | 4.683 | ENKOF2        | Homo sapiens 27 [Source:HGNC Symbol;Acc:HGNC:18253] [ENS:00000591612]  |
| A.23.PH4501    | 4.671 | 2.224 | 4.671 | FAM64A1       | Homo sapiens annexin A1 (ANXA1), mRNA [NM_000700]  |
| A.23.P416711   | 4.666 | 2.222 | 4.666 | STGALNAC3     | Homo sapiens ST6 (alpha-N-acetyl-muramyl-2,3-bisectinyl-1,3)-N-acetylglucosaminidase alpha-2,6-sialyltransferase 3 (STGALNAC3), transcript variant 1, mRNA [NM_152936] |
| A.21.P0008501  | 4.664 | 2.222 | 4.664 | inc-GPRI32-1  | LINC001437-3, lincRNA [inc-GPRI32-1-3]   |
| A.23.P180154   | 4.664 | 2.221 | 4.664 | GALE          | Homo sapiens UDP-galactose-4-epimerase (GALE), transcript variant 1, mRNA [NM_000403]  |
| A.21.P0011843  | 4.659 | 2.220 | 4.659 | PGM5          | phosphoglucomutase 5 [Source:HGNC Symbol;Acc:HGNC:8908] [ENS:00000604870]  |
| A.33.P3415902  | 4.656 | 2.220 | 4.656 | CLON6         | Homo sapiens chloride channel, voltage-sensitive 6 (CLON6), transcript variant 1, mRNA [NM_001278899]  |
| A.23.PH5757    | 4.657 | 2.219 | 4.657 | GCN6B2        | Homo sapiens cyclin B2 (GCN6B2), mRNA [NM_004701]  |
| A.33.P3283083  | 4.654 | 2.219 | 4.654 | INPP4B        | Homo sapiens inositol polyphosphate-4-phosphatase, type II, 105kDa (INPP4B), transcript variant 1, mRNA [NM_003886]  |
| A.23.P398566   | 4.651 | 2.218 | 4.651 | NRAA3         | Homo sapiens nuclear receptor subfamily 4, group A, member 3 (NRAA3), transcript variant 3, mRNA [NM_173200]   |
| A.33.P323089   | 4.650 | 2.217 | 4.650 | FELX1B        | Homo sapiens F-box and leucine-rich repeat protein 18 (FELX1B), mRNA [NM_024563]   |
| A.24.P153169   | 4.648 | 2.217 | 4.648 | FMX2          | Homo sapiens farnesyl-transferase proteinase 2 (FMX2), transcript variant 1, mRNA [NM_016046]  |
| A.22.P0003806  | 4.648 | 2.216 | 4.648 | LOC100801425  | Homo sapiens epoxide monooxygenase 2 (TMM27), transcript variant 2, mRNA [NM_001035207]  |
| A.24.P32466    | 4.644 | 2.214 | 4.644 | GAS7          | Homo sapiens growth arrest-specific 7 (GAS7), transcript variant 4, mRNA [NM_201433]   |
| A.24.PH8277    | 4.640 | 2.214 | 4.640 | GOLGA7        | Homo sapiens golgi A7 (GOLGA7), transcript variant 2, mRNA [NM_001002286]  |
| A.24.P289139   | 4.635 | 2.212 | 4.635 | SH3BP1        | Homo sapiens SH3-domain kinase binding protein 1 (SH3BP1), transcript variant 2, mRNA [NM_001024686]   |
| A.23.P119254   | 4.625 | 2.209 | 4.625 | ASF1B         | Homo sapiens anti-silencing function 1B histone chaperone (ASF1B), mRNA [NM_018154]  |

|                 |       |       |       |    |                |  |
|-----------------|-------|-------|-------|----|----------------|--|
| A_21_P0002783   | 4.623 | 2.209 | 4.623 | UP |                | Homo sapiens chordin 9 (CLDN9), mRNA [NM_020982]   |
| A_21_P235138    | 4.618 | 2.207 | 4.618 | UP | LINC00859      | Homo sapiens long intergenic non-protein coding RNA 659 (LINC00859), transcript variant 1, long non-coding RNA [NR_049224]     |
| A_21_P0008659   | 4.617 | 2.207 | 4.617 | UP | LINC00859      | Homo sapiens serotonins 1D receptor (5-HT1D), mRNA, complete cds. [M81589]   |
| A_33_P3357813   | 4.616 | 2.207 | 4.616 | UP | HTR1D          | Homo sapiens guanine 7 (GOLGA7), transcript variant 2, mRNA [NM_001002296]   |
| A_33_P3420068   | 4.616 | 2.206 | 4.616 | UP | GOLGA7         | Homo sapiens WW and G2 domain containing 1 (WWC1), transcript variant 3, mRNA [NM_019238]                                      |
| A_23_P381382    | 4.615 | 2.206 | 4.615 | UP | WWC1           | Homo sapiens NUKAK family, SNF1-like kinase 2 (NUAK2), mRNA [NM_020952]  |
| A_33_P3338106   | 4.614 | 2.205 | 4.614 | UP | NUAK2          | Homo sapiens protein phosphatase 1, regulatory (inhibitor) subunit 14A (PPP1R14A), transcript variant 1, mRNA [NM_033236]      |
| A_33_P3401647   | 4.609 | 2.205 | 4.609 | UP | PPP1R14A       | Homo sapiens WW domain containing transcription regulator 1 (WWT1), transcript variant 1, mRNA [NM_165472]                     |
| A_23_P29769     | 4.606 | 2.203 | 4.606 | UP | WWT1           | Homo sapiens WW domain containing transcription regulator 1 (WWT1), transcript variant 1, mRNA [NM_165472]                     |
| A_23_P70818     | 4.605 | 2.203 | 4.605 | UP | OSER1          | Homo sapiens oxidative stress responsive serine-rich 1 (OSER1), mRNA [NM_0116470]  |
| A_33_P3240566   | 4.604 | 2.203 | 4.604 | UP | OSER1          | Homo sapiens nuclear receptor interacting protein 3 (NRIP3), mRNA [NM_020843]  |
| A_32_P19598     | 4.599 | 2.201 | 4.599 | UP | NRIP3          | Homo sapiens nuclear receptor interacting protein 3 (NRIP3), mRNA [NM_020843]  |
| A_22_P00013571  | 4.599 | 2.201 | 4.599 | UP | ZNF295-AS1     | Homo sapiens ZNF295 antisense RNA 1 (ZNF295-AS1), transcript variant 1, long non-coding RNA [NR_119384]                        |
| A_33_P3362367   | 4.598 | 2.201 | 4.598 | UP | RTN3           | DA740059, NTRP7, Homo sapiens cDNA clone NTZP7/002069.5, mRNA sequence. [DA740059]   |
| A_22_P00015140  | 4.597 | 2.201 | 4.597 | UP | LOC101827481   | exon333, [Source:HGNC Symbol;Acc:HGNC:10493] [ENST000002038850]  |
| A_33_P3280709   | 4.596 | 2.200 | 4.596 | UP | LOC101827481   | Homo sapiens uncharacterized, LOC101827481, LOC101827481, long non-coding RNA [NR_126336]                                      |
| A_33_P3354823   | 4.591 | 2.199 | 4.591 | UP | BTD19          | Homo sapiens empty aprataches homeobox 1 (EMX1), mRNA [NM_004697]  |
| A_23_P315122    | 4.590 | 2.188 | 4.590 | UP | EMX1           | Homo sapiens BTB (POZ) domain containing 19 (BTBD19), mRNA [NM_001136557]  |
| A_22_P00008842  | 4.590 | 2.198 | 4.590 | UP | LINC00820      | long intergenic non-protein coding RNA 520 [Source:HGNC Symbol;Acc:HGNC:18943] [ENST00000554196]                               |
| A_22_P00017257  | 4.587 | 2.188 | 4.587 | UP | linc-UNC93B1-2 | DB451973, RIKEN full-length enriched human cDNA library, testis Homo sapiens cDNA clone H01305K11.5, mRNA sequence. [DB451973] |
| A_23_P152655    | 4.584 | 2.187 | 4.584 | UP | CGAM2          | Homo sapiens intercalated adhesion molecule 2 (ICAM2), transcript variant 5, mRNA [NM_000973]                                  |
| A_33_P315374    | 4.578 | 2.184 | 4.578 | UP | MT1B           | Homo sapiens metallothionein 1B (MT1B), mRNA [NM_001070667]  |
| A_23_P32765     | 4.578 | 2.184 | 4.578 | UP | MT1B           | Homo sapiens metallothionein 1B (MT1B), mRNA [NM_001070667]  |
| A_33_P3232468   | 4.575 | 2.184 | 4.575 | UP | OLIP4          | Homo sapiens CAP-GLY domain containing linker protein family, member 4 (CLIP4), transcript variant 1, mRNA [NM_024689]         |
| A_24_P203000    | 4.575 | 2.184 | 4.575 | UP | IL2RB          | Homo sapiens interleukin 2 receptor, beta (IL2RB), mRNA [NM_000978]  |
| A_24_P305190    | 4.575 | 2.184 | 4.575 | UP | DSEL           | Homo sapiens dermatan sulfate epimerase-like (DSEL), mRNA [NM_032160]  |
| A_21_P00043445  | 4.572 | 2.183 | 4.572 | UP | LINC01269      | Homo sapiens long intergenic non-protein coding RNA 1269 (LINC01269), long non-coding RNA [NR_125789]                          |
| A_23_P38381     | 4.571 | 2.182 | 4.571 | UP | NET1           | Homo sapiens neurexin cell-cell signaling (NET1), transcript variant 1, mRNA [NM_001047160]                                    |
| A_33_P3268720   | 4.570 | 2.182 | 4.570 | UP | SYTL4          | Homo sapiens synaptotagmin-like 4 (SYTL4), transcript variant 1, mRNA [NM_080737]  |
| A_33_P3268255   | 4.569 | 2.192 | 4.569 | UP | CSGALNACT2     | Homo sapiens chondroitin sulfate N-acetylglucosaminyltransferase 2 (CSGALNACT2), mRNA [NM_018590]                              |
| A_32_P3069910   | 4.564 | 2.180 | 4.564 | UP | GRYM-AS1       | Homo sapiens cDNA FLJ38896 fs, clone NTZNE2015275 [AK082355]   |
| A_33_P314525    | 4.564 | 2.180 | 4.564 | UP | GRYM-AS1       | Homo sapiens cDNA FLJ38896 fs, clone NTZNE2015275 [AK082355]   |
| A_23_P31200     | 4.560 | 2.189 | 4.560 | UP | SCGB2A1        | Homo sapiens secretoglycin, family 2A, member 1 (SCGB2A1), mRNA [NM_004075]  |
| A_23_P170649    | 4.557 | 2.188 | 4.557 | UP | SBSPOP         | Homo sapiens somatomedin B and thrombospondin, type 1 domain containing (SBSPOP), mRNA [NM_132235]                             |
| A_23_P1216556   | 4.548 | 2.185 | 4.548 | UP | EPB41L4B       | Homo sapiens erythrocyte membrane protein band 4.1 like 4B (EPB41L4B), transcript variant 1, mRNA [NM_183924]                  |
| A_23_P326234    | 4.547 | 2.185 | 4.547 | UP | RHCE           | Homo sapiens Rh blood group, CcEe antigen, (RHCE), transcript variant 1, mRNA [NM_020485]                                      |
| A_23_P422767    | 4.546 | 2.184 | 4.546 | UP | TRIM7          | Homo sapiens tripartite motif containing 17 (TRIM7), transcript variant 1, mRNA [NM_016102]                                    |
| A_24_P305721    | 4.541 | 2.183 | 4.541 | UP | SLC6A14        | Homo sapiens solute carrier family 6 (amino acid transporters), member 14 (SLC6A14), mRNA [NM_007231]                          |
| A_22_P00003686  | 4.535 | 2.181 | 4.535 | UP | LOC2285187     | HE512, HE53, SAAGE, Homo sapiens cDNA sequence. [DN004327]   |
| A_33_P3373805   | 4.535 | 2.181 | 4.535 | UP | LOC2285187     | dicoumarol 2'-sulfinylase pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:3390] [ENST0000024799]                                     |
| A_33_P3341787   | 4.530 | 2.179 | 4.530 | UP | NR1D1          | Homo sapiens nuclear receptor subfamily 1, group D, member 1 (NR1D1), mRNA [NM_021724]   |
| A_24_P250227    | 4.528 | 2.178 | 4.528 | UP | FKBP15         | Homo sapiens FKBP08 binding protein 15, 133kDa (FKBP15), mRNA [NM_015238]  |
| A_32_P324149    | 4.527 | 2.178 | 4.527 | UP | SYTL4          | Homo sapiens synaptotagmin-like 4 (SYTL4), transcript variant 1, mRNA [NM_080737]  |
| A_24_P122337    | 4.524 | 2.175 | 4.524 | UP | FOCAD-AS1      | Homo sapiens FOGAD antisense RNA 1 (FOCAD-AS1), long non-coding RNA [NR_121807]  |
| A_22_P00023141  | 4.516 | 2.175 | 4.516 | UP | SOST           | Homo sapiens sclerostin (SOST), mRNA [NM_025237]   |
| A_23_P118571    | 4.515 | 2.174 | 4.515 | UP | DRD5           | Homo sapiens dopamine receptor D5 (DRD5), mRNA [NM_007798]   |
| A_32_P34274     | 4.509 | 2.173 | 4.509 | UP | DRD5           | Homo sapiens dopamine receptor D5 (DRD5), mRNA [NM_007798]   |
| A_23_P39311     | 4.508 | 2.173 | 4.508 | UP | DRD5           | Homo sapiens dopamine receptor D5 (DRD5), mRNA [NM_007798]   |
| A_21_P0011072   | 4.507 | 2.172 | 4.507 | UP | DNAH17         | Homo sapiens dyx17c1, transmembrane, hevy chain 17 (DHA17), mRNA [NM_178293]   |
| A_21_P0009459   | 4.504 | 2.171 | 4.504 | UP | linc-SYCE1L-1  | EX111564, Spores, NPL, LGC0-S1, Homo sapiens cDNA clone IMAGE49984203957, mRNA sequence [EG380900]                             |
| A_22_P00015645  | 4.504 | 2.171 | 4.504 | UP | linc-SYCE1L-1  | 802458841.F1, NH.MGC.16, Homo sapiens cDNA clone IMAGE:4810315.5, mRNA sequence [EG380900]                                     |
| A_33_P3253960   | 4.501 | 2.170 | 4.501 | UP | DHR11          | 4dhydroxymethyl/reductase (SDR family), member 11 [Source:HGNC Symbol;Acc:HGNC:28639] [ENST00000610443]                        |
| A_33_P3283515   | 4.500 | 2.170 | 4.500 | UP | PDZD2          | PDZ domain containing 2 [Source:HGNC Symbol;Acc:HGNC:18486] [ENST00000391559]  |
| A_22_P0009454   | 4.498 | 2.168 | 4.498 | UP | LOC101827688   | Homo sapiens uncharacterized, LOC101827688, LOC101827688, long non-coding RNA [NR_110114]                                      |
| A_24_P309888    | 4.493 | 2.168 | 4.493 | UP | GNPML          | centromere protein 1 [Source:HGNC Symbol;Acc:HGNC:18392] [ENST00000398437]   |
| A_23_P117851    | 4.490 | 2.167 | 4.490 | UP | PLX3           | Homo sapiens complexin 3 (PLX3), mRNA [NM_001090005]   |
| A_23_P58283     | 4.490 | 2.167 | 4.490 | UP | UBE2D3         | Homo sapiens ubiquitin-conjugating enzyme E2D 3 (UBE2D3), transcript variant 2, mRNA [NM_181896]                               |
| A_22_P00005649  | 4.487 | 2.166 | 4.487 | UP | NR1D2          | Homo sapiens nuclear receptor subfamily 1, group D, member 2 (NR1D2), transcript variant 3, non-coding RNA [NR_110524]         |
| A_33_P3270429   | 4.486 | 2.165 | 4.486 | UP | MAP3K7C1L      | Homo sapiens MAP3K7 C-terminal like (MAP3K7C1L), transcript variant 1, mRNA [NM_020169]  |
| A_23_P527277    | 4.486 | 2.164 | 4.486 | UP | ABOG4          | Homo sapiens ATP-binding cassette, sub-family G (WHITE), member 4 (ABCG4), transcript variant 1, mRNA [NM_022100]              |
| A_24_P305626    | 4.482 | 2.164 | 4.482 | UP | ABOG4          | Homo sapiens ATP-binding cassette, sub-family G (WHITE), member 4 (ABCG4), transcript variant 1, mRNA [NM_022100]              |
| A_23_P382384    | 4.482 | 2.163 | 4.482 | UP | FAF1           | Homo sapiens sarcoplasmic reticulum chaperone 1-like (FAF1), transcript variant 3, mRNA [NM_001185905]                         |
| A_21_P0000080   | 4.478 | 2.163 | 4.478 | UP | FAM122C        | Homo sapiens family with sequence similarity 122C (FAM122C), transcript variant 4, mRNA [NM_001170781]                         |
| A_19_P000316564 | 4.471 | 2.161 | 4.471 | UP | LOC683712      | Homo sapiens intracellular transport 122 homolog (Chlamydomonas) pseudogene (LOC683712), non-coding RNA [NR_034179]            |
| A_23_P108544    | 4.470 | 2.160 | 4.470 | UP | MT2A           | Homo sapiens metallothionein 2A (MT2A), mRNA [NM_005955]   |

|                |       |       |       |                |    |                |  |
|----------------|-------|-------|-------|----------------|----|----------------|--|
| A.22.P00020624 | 4.460 | 2.160 | 4.469 | inc-PRK1-1     | up | inc-PRK1-1     | BX10274 Soares, testis, NHT Homo sapiens cDNA clone IMAGE696H104500, mRNA sequence [BX10274]   |
| A.23.P08623    | 4.465 | 2.159 | 4.465 | OPN1MW         | up | OPN1MW         | Homo sapiens opn1 (cone pigment), medium-wave-sensitive (OPN1MW), mRNA [NM 000513]   |
| A.23.P24074    | 4.460 | 2.157 | 4.460 | ROSA           | up | ROSA           | Homo sapiens RAR-related orphan receptor A (ROSA), transcript variant 2, mRNA [NM 194200]  |
| A.33.P3403075  | 4.460 | 2.157 | 4.460 | PRR11          | up | PRR11          | Homo sapiens proline rich 11 (PRR11), mRNA [NM 018354]   |
| A.33.P341034   | 4.459 | 2.157 | 4.459 | SHF            | up | SHF            | Homo sapiens Src homology 2 domain containing F (SHF), transcript variant 2, mRNA [NM 138356]  |
| A.22.P0001282  | 4.458 | 2.156 | 4.458 | SLIT1          | up | SLIT1          | Homo sapiens slit homolog 1 (Drosophila) (SLIT1), mRNA [NM 003061]   |
| A.22.P0001282  | 4.458 | 2.156 | 4.458 | LOC28289       | up | LOC28289       | Homo sapiens uncharacterized LOC28289 (LOC28289), long non-coding RNA [NR 08878]   |
| A.33.P321130   | 4.453 | 2.155 | 4.453 | USP39          | up | USP39          | Homo sapiens ubiquitin specific peptidase 39 (USP39), mRNA [NM 019550]   |
| A.33.P321130   | 4.453 | 2.155 | 4.453 | DEIN3          | up | DEIN3          | DEIN3 domain containing 3 (Source:HGNC Symbol;Acc:HGNC:29134) [ENST0000020489]   |
| A.23.P27227    | 4.443 | 2.154 | 4.443 | COB1           | up | COB1           | Homo sapiens coiled-coil domain containing 1 (COB1), transcript variant 1, mRNA [NM 015198]  |
| A.23.P27227    | 4.443 | 2.154 | 4.443 | COB1-3         | up | COB1-3         | LOC543333 (COB1-3), transcript variant 3, mRNA [NM 015198]   |
| A.21.P000469   | 4.438 | 2.150 | 4.437 | inc-DS-3       | up | inc-DS-3       | Homo sapiens chemokine (C-C motif) receptor 3 (CCR3), transcript variant 1, mRNA [NM 001837]   |
| A.22.P250329   | 4.437 | 2.150 | 4.437 | CCER3          | up | CCER3          | PREDICTED: Homo sapiens uncharacterized LOC101928884 (LOC101928884), mRNA [XK 244659]  |
| A.22.P0010669  | 4.433 | 2.149 | 4.433 | inc-RI18884    | up | inc-RI18884    | LOC101928884 (inc-RI18884), transcript variant 1, mRNA [NM 001837]   |
| A.21.P001386   | 4.428 | 2.147 | 4.428 | BROAD          | up | BROAD          | BROAD, lincRNA, XLOC 0204867, lincRNA [XLOC 0204867]   |
| A.23.P3318439  | 4.423 | 2.145 | 4.423 | RNF212         | up | RNF212         | Homo sapiens ring finger protein 212 (RNF212), transcript variant 1, mRNA [NM 00131034]  |
| A.33.P282884   | 4.423 | 2.145 | 4.423 | IL8R           | up | IL8R           | Homo sapiens interleukin 8 receptor (IL8R), transcript variant 1, mRNA [NM 000655]   |
| A.23.P46412    | 4.423 | 2.145 | 4.423 | SCANN1         | up | SCANN1         | Homo sapiens sodium channel, non voltage gated 1, delta subunit (SCNN1D), transcript variant 1, mRNA [NM 001130413]                            |
| A.21.P0001407  | 4.420 | 2.144 | 4.420 | inc-MFSD4-2    | up | inc-MFSD4-2    | LINC54333 (inc-MFSD4-2), lincRNA [XK 244659]   |
| A.23.P25123    | 4.420 | 2.144 | 4.420 | VGLL1          | up | VGLL1          | Homo sapiens vestigial-like family member 1 (VGLL1), mRNA [NM 016267]  |
| A.23.P361820   | 4.419 | 2.144 | 4.419 | ATGZA          | up | ATGZA          | Homo sapiens autophagy related 2A (ATGZA), mRNA [NM 015104]  |
| A.23.P376124   | 4.418 | 2.143 | 4.418 | RNASEB         | up | RNASEB         | Homo sapiens ribonuclease, RNase A family, 3 (RNASEB), mRNA [NM 138331]  |
| A.19.P00802587 | 4.412 | 2.141 | 4.412 | up             | up |                | long intergenic non-protein coding RNA 385 (Source:HGNC Symbol;Acc:HGNC:42713) [ENS0000430645]   |
| A.23.P213249   | 4.410 | 2.141 | 4.410 | inc-DPP4-1     | up | inc-DPP4-1     | DEIN3 domain containing 3 (Source:HGNC Symbol;Acc:HGNC:29134) [ENST0000020489]   |
| A.23.P143173   | 4.408 | 2.141 | 4.408 | SLC2           | up | SLC2           | Homo sapiens Solute carrier family 2 (SLC2), transcript variant 1, mRNA [NM 032244]  |
| A.23.P211141   | 4.408 | 2.140 | 4.408 | DSCAM          | up | DSCAM          | Homo sapiens Down syndrome cell adhesion molecule (DSCAM), transcript variant 1, mRNA [NM 001389]  |
| A.24.P316430   | 4.407 | 2.140 | 4.407 | NTRF           | up | NTRF           | Homo sapiens 5'-nucleotidase, ecto (GD23) (NTRF), transcript variant 1, mRNA [NM 002926]   |
| A.22.P00015000 | 4.405 | 2.139 | 4.405 | LOC101927817   | up | LOC101927817   | Homo sapiens uncharacterized LOC101927817 (LOC101927817), transcript variant 1, long non-coding RNA [NR 110931]                                |
| A.23.P174349   | 4.400 | 2.137 | 4.400 | NUP2           | up | NUP2           | Homo sapiens NUP2, NDC80 kinetochore complex component (NUP2), transcript variant 1, mRNA [NM 145697]  |
| A.23.P411157   | 4.396 | 2.136 | 4.396 | WNT1           | up | WNT1           | Homo sapiens wntless-type MMTV integration site family, member 1 (WNT1), mRNA [NM 005430]  |
| A.22.P0001540  | 4.396 | 2.136 | 4.396 | LOC101939470   | up | LOC101939470   | Homo sapiens uncharacterized LOC101939470 (LOC101939470), long non-coding RNA [NR 129817]  |
| A.22.P00015243 | 4.395 | 2.135 | 4.395 | inc-SPAG1-3    | up | inc-SPAG1-3    | LINC54333 (inc-SPAG1-3), lincRNA [XK 244659]   |
| A.23.P166156   | 4.395 | 2.136 | 4.395 | ZCOH9          | up | ZCOH9          | Homo sapiens zinc finger, CCHC domain containing 9 (ZCOH9), transcript variant 1, mRNA [NM 022260]   |
| A.23.P102080   | 4.395 | 2.136 | 4.395 | SSFA2          | up | SSFA2          | Homo sapiens sperm specific antigen 2 (SSFA2), transcript variant 2, mRNA [NM 006751]  |
| A.23.P102080   | 4.394 | 2.135 | 4.394 | INC2           | up | INC2           | Homo sapiens troponin C type 2 (test) (INC2), mRNA [NM 032729]   |
| A.22.P0001257  | 4.392 | 2.135 | 4.392 | inc-ZNF726-1   | up | inc-ZNF726-1   | Homo sapiens cDNA FJ40681, fig. clone 1E512045306, [AK097810]  |
| A.33.P325258   | 4.391 | 2.133 | 4.391 | GTSZ           | up | GTSZ           | gtsz, lincRNA, XLOC 0204867, lincRNA [XLOC 0204867]  |
| A.33.P166761   | 4.390 | 2.134 | 4.390 | GORG1A         | up | GORG1A         | Homo sapiens coronin, auto-binding protein 1A (GORG1A), transcript variant 2, mRNA [NM 002074]   |
| A.33.P2311342  | 4.388 | 2.134 | 4.388 | inc-AO210861-2 | up | inc-AO210861-2 | LINC54333 (inc-AO210861-2), lincRNA [XK 244659]  |
| A.23.P427682   | 4.387 | 2.134 | 4.387 | NRP3           | up | NRP3           | Homo sapiens nuclear receptor interacting protein 3 (NRP3), mRNA [NM 020645]   |
| A.22.P0008175  | 4.387 | 2.133 | 4.387 | inc-NP4B-2     | up | inc-NP4B-2     | LINC54333 (inc-NP4B-2), lincRNA [XK 244659]  |
| A.21.P0001912  | 4.387 | 2.133 | 4.387 | BROAD          | up | BROAD          | PREDICTED: Homo sapiens carboxy-terminal domain RNA polymerase II polypeptide A small phosphatase 2-like (LOC101980081), misc. RNA [XR 171111] |
| A.33.P3378697  | 4.386 | 2.133 | 4.386 | inc-CIT-6      | up | inc-CIT-6      | LINC54333 (inc-CIT-6), lincRNA [XK 244659]   |
| A.33.P347320   | 4.375 | 2.129 | 4.375 | ADRF-AS1       | up | ADRF-AS1       | Homo sapiens, clone IMAGE3913879, mRNA [BC017876]  |
| A.22.P00009163 | 4.369 | 2.127 | 4.369 | LOC10273465    | up | LOC10273465    | PREDICTED: Homo sapiens uncharacterized LOC10273465 (LOC10273465), mRNA [XR 429055]  |
| A.23.P337863   | 4.369 | 2.127 | 4.369 | KIAA0226L      | up | KIAA0226L      | Homo sapiens KIAA0226-like (KIAA0226L), transcript variant 1, mRNA [NM 025113]   |
| A.24.P228302   | 4.368 | 2.127 | 4.368 | GEACAM7        | up | GEACAM7        | Homo sapiens carcinoma embryonic antigen-related cell adhesion molecule 7 (GEACAM7), transcript variant 1, mRNA [NM 006880]                    |
| A.23.P200724   | 4.366 | 2.126 | 4.366 | MTTE           | up | MTTE           | Homo sapiens metallothionein 1E (MTTE), mRNA [NM 178617]   |
| A.22.P00010827 | 4.366 | 2.126 | 4.366 | inc-NR2C1-1    | up | inc-NR2C1-1    | LINC54333 (inc-NR2C1-1), lincRNA [XK 244659]   |
| A.33.P3275741  | 4.365 | 2.126 | 4.365 | FN3            | up | FN3            | LINC54333 (FN3), lincRNA [XK 244659]   |
| A.33.P331245   | 4.363 | 2.125 | 4.363 | RRF4519-7      | up | RRF4519-7      | Homo sapiens beta1 associated protein 19-7 (RTA919.7), mRNA [NM 181614]  |
| A.21.P0002781  | 4.359 | 2.124 | 4.359 | LINC01213      | up | LINC01213      | Homo sapiens long intergenic non-protein coding RNA 1213 (LINC01213), transcript variant 1, long non-coding RNA [NR 110187]                    |
| A.33.P3378628  | 4.351 | 2.121 | 4.351 | CMTM7          | up | CMTM7          | Homo sapiens CMT-like MARVEL transmembrane domain containing 7 (CMTM7), transcript variant 1, mRNA [NM 138410]                                 |
| A.24.P177568   | 4.345 | 2.119 | 4.345 | ZNF431         | up | ZNF431         | Homo sapiens zinc finger protein 431 (ZNF431), mRNA [NM 133473]  |
| A.22.P00006615 | 4.344 | 2.119 | 4.344 | SFRP2          | up | SFRP2          | Homo sapiens small frizzled protein 2D (SFRP2D), mRNA [NM 008445]  |
| A.33.P332388   | 4.343 | 2.119 | 4.343 | inc-C22orf26-2 | up | inc-C22orf26-2 | LINC54333 (inc-C22orf26-2), lincRNA [XK 244659]  |
| A.21.P0010481  | 4.340 | 2.118 | 4.340 | XLOC 0200384   | up | XLOC 0200384   | BROAD Institute lincRNA, XLOC 0200384, lincRNA [XLOC 0200384]  |
| A.24.P580248   | 4.337 | 2.117 | 4.337 | EMR2           | up | EMR2           | Homo sapiens egr-like module containing, mucin-like, hormone receptor-like 2 (EMR2), transcript variant 1, mRNA [NM 013447]                    |
| A.23.P002338   | 4.333 | 2.115 | 4.333 | TMS6F1         | up | TMS6F1         | Homo sapiens transmembrane 6 superfamily member 1 (TMS6F1), transcript variant 1, mRNA [NM 020003]   |
| A.22.P0023553  | 4.329 | 2.114 | 4.329 | inc-RNF11-1    | up | inc-RNF11-1    | LINC54333 (inc-RNF11-1), lincRNA [XK 244659]   |
| A.19.P00321739 | 4.328 | 2.114 | 4.328 | LINC00472      | up | LINC00472      | Homo sapiens long intergenic non-protein coding RNA 472 (LINC00472), transcript variant 4, long non-coding RNA [NR 121014]                     |
| A.33.P3321142  | 4.326 | 2.113 | 4.326 | BAMP2          | up | BAMP2          | Homo sapiens BAI1-associated protein 2 (BAMP2), transcript variant 1, mRNA [NM 017450]   |
| A.22.P00016429 | 4.324 | 2.112 | 4.324 | HIF1A-AS1      | up | HIF1A-AS1      | Homo sapiens HIF1A antisense RNA 1 (HIF1A-AS1), long non-coding RNA [NR 047116]  |
| A.23.P380971   | 4.320 | 2.111 | 4.320 | DEFB105B       | up | DEFB105B       | Homo sapiens defensin, beta 105B (DEFB105B), mRNA [NM 001040703]   |
| A.22.P00003025 | 4.320 | 2.111 | 4.320 | up             | up |                |  |

|                |       |       |       |              |    |       |  |
|----------------|-------|-------|-------|--------------|----|-------|--|
| A_23_P5778     | 4.320 | 2.111 | 4.320 | RAB17        | up | 4.320 | Human RAB17, member RAS oncogene family (RAB17), transcript variant 1, mRNA [NM_022449]          |
| A_23_P53183    | 4.319 | 2.111 | 4.319 | SYTL2        | up | 4.319 | Human syntaxin-1-like 2 (SYTL2), transcript variant a, mRNA [NM_029243]                          |
| A_24_P26868    | 4.318 | 2.110 | 4.318 | MAR2K3       | up | 4.318 | Human mitogen-activated protein kinase kinase 3 (MAP2K3), transcript variant B, mRNA [NM_145109] |
| A_23_P10973    | 4.318 | 2.110 | 4.318 | TLRI         | up | 4.318 | Human toll-like receptor 1 (TLRI), mRNA [NM_002263]  |
| A_23_P44553    | 4.315 | 2.099 | 4.315 | GLTSL        | up | 4.315 | Human sialophorin 1 (GLTSL), transcript variant 1, mRNA [NM_001912]                              |
| A_23_P37942    | 4.312 | 2.088 | 4.312 | GLDN6        | up | 4.312 | Human sialin 6 (GLDN6), mRNA [NM_021199]   |
| A_23_P19329    | 4.310 | 2.088 | 4.310 | DGDEL2       | up | 4.310 | Human sialin 2 (DGDEL2), transcript variant 1, mRNA [NM_006927]                                  |
| A_33_P3318786  | 4.309 | 2.107 | 4.309 | FSTL3        | up | 4.309 | Human sialin 3 (FSTL3), transcript variant 1, mRNA [NM_003589]                                   |
| A_21_P0008051  | 4.308 | 2.107 | 4.308 | ETV7         | up | 4.308 | Human transcription factor ETV7 (ETV7), transcript variant 1, mRNA [NM_016135]                   |
| A_23_P42353    | 4.307 | 2.107 | 4.307 | TEFAP2-AS1   | up | 4.305 | Human transcription factor ETV7 (ETV7), transcript variant 1, mRNA [NM_016135]                   |
| A_22_P00006956 | 4.305 | 2.106 | 4.305 | HERC3        | up | 4.305 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P121198   | 4.305 | 2.106 | 4.305 | HERC3        | up | 4.305 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P10591    | 4.304 | 2.105 | 4.304 | METRNL       | up | 4.304 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P2358769  | 4.301 | 2.105 | 4.301 | HLA-DPB1     | up | 4.301 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_24_P323064   | 4.301 | 2.105 | 4.301 | LINC00462    | up | 4.301 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3278951  | 4.298 | 2.104 | 4.298 | TSPYL5       | up | 4.298 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3286253  | 4.294 | 2.102 | 4.294 | GTNBP1       | up | 4.294 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P4048230  | 4.289 | 2.101 | 4.289 | DEFS1        | up | 4.289 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P326426   | 4.288 | 2.100 | 4.288 | SPRZY2       | up | 4.288 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3270983  | 4.287 | 2.100 | 4.287 | ZDH1         | up | 4.287 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P13740    | 4.285 | 2.099 | 4.285 | NAV3         | up | 4.285 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3370885  | 4.285 | 2.099 | 4.285 | FOXP3        | up | 4.285 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0014151  | 4.283 | 2.099 | 4.283 | MAR2K3       | up | 4.283 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3324345  | 4.283 | 2.099 | 4.283 | SPNS3        | up | 4.283 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P100063   | 4.283 | 2.099 | 4.283 | SPNS3        | up | 4.283 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P30930    | 4.280 | 2.098 | 4.280 | CCDC98       | up | 4.280 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P384395   | 4.279 | 2.097 | 4.279 | UHRF1        | up | 4.279 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3281989  | 4.278 | 2.097 | 4.278 | FAM221A      | up | 4.278 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P326167   | 4.276 | 2.097 | 4.276 | FAM129B      | up | 4.276 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3254709  | 4.273 | 2.095 | 4.273 | ARHGAP40     | up | 4.273 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P12556    | 4.272 | 2.095 | 4.272 | TP53BP2      | up | 4.272 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3409477  | 4.268 | 2.094 | 4.268 | UBASH3B      | up | 4.268 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3327673  | 4.267 | 2.093 | 4.267 | COBL         | up | 4.267 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P163402   | 4.266 | 2.093 | 4.266 | CYP11A1      | up | 4.266 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0010480  | 4.264 | 2.092 | 4.264 | INC-SMC1B-3  | up | 4.264 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0022238  | 4.261 | 2.091 | 4.261 | INC-PLER-1   | up | 4.261 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P3177     | 4.260 | 2.091 | 4.260 | KCNK13       | up | 4.260 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_24_P374382   | 4.260 | 2.091 | 4.260 | TOPBP2       | up | 4.260 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_19_P0081812  | 4.256 | 2.090 | 4.256 | MFRP1        | up | 4.256 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3400046  | 4.256 | 2.090 | 4.256 | LINC01204    | up | 4.256 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0006464  | 4.255 | 2.089 | 4.255 | KIAA1958     | up | 4.255 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0011322  | 4.252 | 2.088 | 4.252 | XLOC1203847  | up | 4.252 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3213831  | 4.250 | 2.088 | 4.250 | STRIP2       | up | 4.250 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P141974   | 4.248 | 2.087 | 4.248 | TPM4         | up | 4.248 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_22_P00019045 | 4.245 | 2.086 | 4.245 | MIR181A2HG   | up | 4.245 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P35574    | 4.240 | 2.084 | 4.240 | TMC33        | up | 4.240 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0008183  | 4.239 | 2.084 | 4.239 | INC-RNF219-1 | up | 4.239 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0006338  | 4.238 | 2.084 | 4.238 | LOC100133077 | up | 4.238 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P207538   | 4.237 | 2.083 | 4.237 | PKY          | up | 4.237 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3221345  | 4.231 | 2.081 | 4.231 | EKRP1A       | up | 4.231 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_24_P285632   | 4.230 | 2.081 | 4.230 | DS           | up | 4.230 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3413353  | 4.230 | 2.081 | 4.230 | LINC00302    | up | 4.230 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P346766   | 4.229 | 2.080 | 4.229 | PKDCC        | up | 4.229 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P112483   | 4.228 | 2.080 | 4.228 | MED1         | up | 4.228 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P339832   | 4.227 | 2.079 | 4.227 | LINC01527    | up | 4.227 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_22_P0015317  | 4.225 | 2.078 | 4.225 | DISF5        | up | 4.225 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P150018   | 4.225 | 2.078 | 4.225 | KIF2C        | up | 4.225 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P34788    | 4.223 | 2.077 | 4.223 | AT9B8        | up | 4.223 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_22_P0003785  | 4.219 | 2.077 | 4.219 | ELK3         | up | 4.219 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P338325   | 4.206 | 2.072 | 4.206 | ELK3         | up | 4.206 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P320546   | 4.204 | 2.072 | 4.204 | KIF14        | up | 4.204 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0003585  | 4.204 | 2.072 | 4.204 | LINC00564608 | up | 4.204 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0010979  | 4.200 | 2.070 | 4.200 | LINC0102789  | up | 4.200 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3212322  | 4.200 | 2.070 | 4.200 | ITGB1BP1     | up | 4.200 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_21_P0010380  | 4.195 | 2.069 | 4.195 | PLK4         | up | 4.195 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_23_P155669   | 4.191 | 2.067 | 4.191 | PKY05        | up | 4.191 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |
| A_33_P3422085  | 4.191 | 2.067 | 4.191 | PKY05        | up | 4.191 | Human syntaxin 1A (TEFAP2-AS1), long non-coding RNA [NR_033810]                                  |



|                |       |       |       |   |    |   |
|----------------|-------|-------|-------|---|----|---|
| A_33_P3275412  | 4.188 | 2.066 | 4.188 | ADAMTS14-AS1  | up | Homo sapiens cDNA FL454786.11c, clone NE17P2008488, [AK112788]  |
| A_19_P0806629  | 4.187 | 2.066 | 4.187 | LINC01510   | up | long intergenic non-protein coding RNA 1510 [Source:HGNC Symbol;Acc:NCBI] [196]   |
| A_24_P08249    | 4.184 | 2.065 | 4.184 | TACC1   | up | Homo sapiens transforming, acidic coiled-coil containing protein 1 (TACC1), transcript variant 1, mRNA [NM_006283]  |
| A_23_P08610    | 4.181 | 2.064 | 4.181 | TPX2  | up | Homo sapiens TPX2, microtubule-associated (TPX2), cDNA [NM_012112]  |
| A_23_P0218388  | 4.178 | 2.063 | 4.178 | DDIT1   | up | Homo sapiens DDIT1, duplicated region transcript 1 (DDIT1), transcript variant 2, mRNA [NM_001282440]   |
| A_23_P15089    | 4.176 | 2.062 | 4.176 | IGF2  | up | Homo sapiens insulin-like growth factor 2 (IGF2), transcript variant 1, mRNA [NM_006012]  |
| A_23_P103086   | 4.175 | 2.062 | 4.175 | PHF18   | up | Homo sapiens perlecan (PCL), mRNA [NM_027209]   |
| A_23_P153241   | 4.169 | 2.059 | 4.169 | PHF14   | up | Homo sapiens transmembrane protein 14 (TMEM14), transcript variant 1, mRNA [NM_02784406]  |
| A_23_P153240   | 4.168 | 2.059 | 4.168 | PHF13   | up | Homo sapiens transmembrane protein 13 (TMEM13), transcript variant 1, mRNA [NM_02784405]  |
| A_23_P027238   | 4.165 | 2.058 | 4.165 | FKBP1A  | up | Homo sapiens FKBP class 1A, 12kDa (FKBP1A), transcript variant 2, mRNA [NM_054014]  |
| A_22_P0001452  | 4.163 | 2.057 | 4.163 | DAI13A2   | up | DAI13A2, BRAM2 Home sapiens cDNA clone BRAM203728.5, mRNA sequence, [DA_124243]   |
| A_24_P06752    | 4.159 | 2.056 | 4.159 | LILRB4  | up | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 4 (LILRB4), transcript variant 1, mRNA [NM_001278426] |
| A_33_P3251841  | 4.157 | 2.056 | 4.157 | DSEL  | up | Homo sapiens desman sulfate epimerase-like (DSEL), mRNA [NM_032160]   |
| A_21_P0010132  | 4.155 | 2.055 | 4.155 | PREDICTED_Homo sapiens uncharacterized LOC102742929 | up | PREDICTED_Homo sapiens uncharacterized LOC102742929 (LOC102742929), mRNA [XR_429277]  |
| A_23_P148185   | 4.155 | 2.055 | 4.155 | SFT2D2  | up | Homo sapiens SFT2, domain containing 2 (SFT2D2), mRNA [NM_198344]   |
| A_22_P00018868 | 4.153 | 2.054 | 4.153 | INRC1   | up | Homo sapiens INRC1, domain containing 1 (INRC1), transcript variant 1, mRNA [NM_022481]   |
| A_22_P00019710 | 4.151 | 2.054 | 4.151 | ARAP3   | up | Homo sapiens ArGAP with RhoGAP domain, ankyrin repeat and PH domain 3 (ARAP3), mRNA [NM_022481]   |
| A_23_P167388   | 4.149 | 2.053 | 4.149 | ARAP3   | up | Homo sapiens ArGAP with RhoGAP domain, ankyrin repeat and PH domain 3 (ARAP3), mRNA [NM_022481]   |
| A_22_P00010633 | 4.148 | 2.052 | 4.148 | INDUPV3-1   | up | LNGpedia lncRNA (lnc-INDUPV3-1), lncRNA [lnc-INDUPV3-1]   |
| A_24_P09753    | 4.144 | 2.051 | 4.144 | AGO11   | up | Homo sapiens EF-hand calcium binding domain 12 (EFCAB12), mRNA [NM_207307]  |
| A_23_P417415   | 4.142 | 2.050 | 4.142 | AGO11   | up | Homo sapiens ago1 homolog 11 (AGO11), transcript variant 2, mRNA [NM_147161]  |
| A_23_P17402    | 4.140 | 2.049 | 4.140 | P2D22   | up | Homo sapiens PDZ domain containing 2 (P2D22), mRNA [NM_178140]  |
| A_23_P18015    | 4.139 | 2.049 | 4.139 | MAPPE2  | up | Homo sapiens microtubule-associated protein, RP/PEF family, member 2 (MAPPE2), transcript variant 1, mRNA [NM_0174268]                                    |
| A_33_P3248656  | 4.131 | 2.047 | 4.131 | SPACA4  | up | Homo sapiens sperm-associated antigen 4 (SPACA4), mRNA [NM_134488]  |
| A_23_P155368   | 4.131 | 2.046 | 4.131 | PCRM22  | up | Homo sapiens progesterone receptor membrane component 2 (PCRM22), mRNA [NM_008320]  |
| A_23_P118834   | 4.129 | 2.046 | 4.129 | TOP2A   | up | Homo sapiens topoisomerase, DNA II alpha 170kDa (TOP2A), mRNA [NM_001067]   |
| A_24_P095567   | 4.124 | 2.044 | 4.124 | SLC25A25  | up | Homo sapiens solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 25 (SLC25A25), transcript variant 2, mRNA [NM_001006841]         |
| A_23_P0002628  | 4.121 | 2.043 | 4.121 | DCX   | up | Homo sapiens doublecortin (DCX), transcript variant 1, mRNA [NM_000555]   |
| A_22_P00009101 | 4.119 | 2.042 | 4.119 | lnc-LIFR-1  | up | LNGpedia lncRNA (lnc-LIFR-1), lncRNA [lnc-LIFR-1]   |
| A_33_P3251421  | 4.118 | 2.042 | 4.118 | KRTAP2-1  | up | Homo sapiens keratin associated protein 2-1 (KRTAP2-1), mRNA [NM_181618]  |
| A_22_P00023623 | 4.112 | 2.040 | 4.112 | CTB-178M22-2  | up | Homo sapiens uncharacterized LOC101927862 (CTB-178M22-2), long non-coding RNA [NR_108984]   |
| A_33_P324571   | 4.111 | 2.039 | 4.111 | MAP2K3  | up | Homo sapiens mitogen-activated protein kinase kinase 3 (MAP2K3), transcript variant B, mRNA [NM_149109]   |
| A_21_P0003192  | 4.110 | 2.039 | 4.110 | lnc-MRPL47-1  | up | LNGpedia lncRNA (lnc-MRPL47-1), lncRNA [lnc-MRPL47-1]   |
| A_23_P01081    | 4.109 | 2.039 | 4.109 | EPCAM   | up | Homo sapiens epithelial cell adhesion molecule (EPCAM), mRNA [NM_022634]  |
| A_33_P3239599  | 4.107 | 2.038 | 4.107 | ED3   | up | Homo sapiens EP300 interacting inhibitor of differentiation 3 (EID3), mRNA [NM_001008934]   |
| A_23_P03608    | 4.104 | 2.037 | 4.104 | WMD1  | up | Homo sapiens WMD1, WMD1 (S. cerevisiae) (WMD1), transcript variant 1, mRNA [NM_020426]  |
| A_23_P13123    | 4.103 | 2.037 | 4.103 | HSD17B14  | up | Homo sapiens hydroxysteroid (17-beta) dehydrogenase 14 (HSD17B14), mRNA [NM_016246]   |
| A_23_P026659   | 4.099 | 2.035 | 4.099 | PRK1  | up | Homo sapiens protein regulator of cytokinesis 1 (PRK1), transcript variant 1, mRNA [NM_033081]  |
| A_21_P00012681 | 4.098 | 2.035 | 4.098 | LOC225187   | up | Homo sapiens uncharacterized LOC225187 (LOC225187), long non-coding RNA [NR_122044]   |
| A_22_P00012238 | 4.093 | 2.033 | 4.093 | lnc-PPIE-2  | up | LNGpedia lncRNA (lnc-PPIE-2), lncRNA [lnc-PPIE-2]   |
| A_24_P046806   | 4.091 | 2.033 | 4.091 | PLEKHA7   | up | Homo sapiens pleckstrin homology domain containing, family A member 7 (PLEKHA7), mRNA [NM_175059]   |
| A_22_P0002164  | 4.090 | 2.032 | 4.090 | RPS8KA2-IT1   | up | Homo sapiens RPS8KA2 intronic transcript 1 (non-protein coding) (RPS8KA2-IT1), long non-coding RNA [NR_046783]  |
| A_21_P00011800 | 4.089 | 2.031 | 4.089 | TTLL5   | up | DB340785 TEST14 Home sapiens cDNA clone TEST1402731.3, mRNA sequence [DB340785]   |
| A_33_P3338437  | 4.084 | 2.030 | 4.084 | TTLL5   | up | Homo sapiens tubulin tyrosine ligase-like family member 5 (TTLL5), mRNA [NM_015972]   |
| A_23_P34682    | 4.084 | 2.030 | 4.084 | CTRC  | up | Homo sapiens chymotrypsin C (caldesin) (CTRC), mRNA [NM_007272]   |
| A_23_P34700    | 4.084 | 2.030 | 4.084 | TNNI7   | up | Homo sapiens tropomyosin T, type 2 (cardiac) (TNNI7), transcript variant 1, mRNA [NM_000384]  |
| A_21_P0003758  | 4.081 | 2.029 | 4.081 | lnc-ARSL-1  | up | LNGpedia lncRNA (lnc-ARSL-1), lncRNA [lnc-ARSL-1]   |
| A_32_P157408   | 4.081 | 2.029 | 4.081 | PGMP3-AS1   | up | Homo sapiens PGMP3 antisense RNA 1 (PGMP3-AS1), transcript variant 1, long non-coding RNA [NR_121186]   |
| A_33_P321353   | 4.075 | 2.027 | 4.075 | TMEM78B   | up | transmembrane protein 78B [Source:HGNC Symbol;Acc:NCBI] [4117] [ENST00000569442]  |
| A_23_P251705   | 4.071 | 2.025 | 4.071 | ARHGFB9   | up | Homo sapiens ARHGFB9, guanine nucleotide exchange factor (GEF) 9 (ARHGFB9), transcript variant 1, mRNA [NM_015186]  |
| A_32_P06384    | 4.067 | 2.024 | 4.067 | PPP1R1C   | up | Homo sapiens protein phosphatase 1, regulatory (inhibitor) subunit 1C (PPP1R1C), transcript variant 3, mRNA [NM_001086645]                                |
| A_23_P43432    | 4.064 | 2.023 | 4.064 | GAST  | up | Homo sapiens gastrin (GAST), transcript variant 6, mRNA [NM_001042440]  |
| A_21_P0001640  | 4.063 | 2.023 | 4.063 | lnc-SRRM4-2   | up | LNGpedia lncRNA (lnc-SRRM4-2), lncRNA [lnc-SRRM4-2]   |
| A_23_P101351   | 4.063 | 2.023 | 4.063 | ZNF426  | up | Homo sapiens zinc finger protein 426 (ZNF426), transcript variant 1, mRNA [NM_024106]   |
| A_23_P030507   | 4.063 | 2.023 | 4.063 | TOP1  | up | Homo sapiens topoisomerase (DNA I) (TOP1), mRNA [NM_002816]   |
| A_32_P28118    | 4.062 | 2.022 | 4.062 | SEMA3D  | up | Homo sapiens sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3D (SEMA3D), mRNA [NM_132715]                            |
| A_24_P076552   | 4.061 | 2.022 | 4.061 | LINC0016844   | up | Homo sapiens clone DNA147298, LINC6487 (LINC6487), mRNA complete cds, [AY358940]  |
| A_33_P037786   | 4.059 | 2.021 | 4.059 | ELK2  | up | Homo sapiens ELK2, member of ETS oncogene family, pseudogene 1, mRNA (cDNA clone IMAGE572995), [BC037299]   |
| A_23_P52087    | 4.059 | 2.021 | 4.059 | GRHL3   | up | Homo sapiens granzyme-like 3 (Granzyme3) (GRHL3), transcript variant 2, mRNA [NM_191173]  |
| A_23_P149545   | 4.058 | 2.021 | 4.058 | HIST2H2BE   | up | Homo sapiens histone cluster 2, H2be (HIST2H2BE), mRNA [NM_003593]  |
| A_32_P1801489  | 4.057 | 2.021 | 4.057 | LINC00020   | up | Homo sapiens long intergenic non-protein coding RNA 309 (LINC00020), transcript variant 1, long non-coding RNA [NR_029100]                                |
| A_33_P3221303  | 4.056 | 2.020 | 4.056 | ALOC12_005553                                       | up | ALOC12_005553, lncRNA [LOC101928532]  |
| A_33_P338882   | 4.054 | 2.019 | 4.054 | CBP10   | up | Homo sapiens histone H3, core (CBP10), mRNA [NM_016802]   |
| A_33_P3261488  | 4.053 | 2.019 | 4.053 | TMIE  | up | eye homolog family member B (Source:HGNC Symbol;Acc:NCBI) [ENST00000272333]   |
| A_24_P040819   | 4.052 | 2.019 | 4.052 | PTPN6   | up | Homo sapiens transmembrane inner ear (TMIE), mRNA [NM_147186]   |
| A_24_P063788   | 4.052 | 2.019 | 4.052 | ASTN2   | up | Homo sapiens transmembrane tyrosine phosphatase, non-receptor type 5 (striatum-enriched) (PTPN6), transcript variant 1, mRNA [NM_006906]                  |
|                |       |       |       |   | up | Homo sapiens astroctactin 2 (ASTN2), transcript variant 4, mRNA [NM_198188]   |



|                |       |       |       |              |    |              |  |
|----------------|-------|-------|-------|--------------|----|--------------|--|
| A.21.P0004254  | 3.911 | 1.868 | 3.911 | inc-GPBP1-3  | up | inc-GPBP1-3  | LINGGedia lincRNA [inc-GPBP1-3], lincRNA [inc-GPBP1-3]   |
| A.22.P00013074 | 3.910 | 1.867 | 3.910 | LOC101929237 | up | LOC101929237 | Home sapiens uncharacterized LOC101929237, long non-coding RNA [NR_125433]   |
| A.23.P41204    | 3.910 | 1.987 | 3.910 | FAM131A      | up | FAM131A      | Home sapiens family with sequence similarity 131, member A (FAM131A), transcript variant 1, mRNA [NM_144635]                             |
| A.22.P00004283 | 3.910 | 1.987 | 3.910 | inc-WIBG-1   | up | inc-WIBG-1   | PREDICTED: Home sapiens uncharacterized LOC101927900 (LOC101927900), transcript variant X3, mRNA [XR_428800]                             |
| A.22.P00019181 | 3.907 | 1.966 | 3.907 | inc-WIBG-1   | up | inc-WIBG-1   | LINGGedia lincRNA [inc-WIBG-1], lincRNA [inc-WIBG-1]   |
| A.23.P259183   | 3.905 | 1.965 | 3.905 | GD177        | up | GD177        | Home sapiens CD177 molecule (GD177), mRNA [NM_020406]  |
| A.33.P3341722  | 3.901 | 1.964 | 3.901 | LOC102723854 | up | LOC102723854 | Synthetic construct Homo sapiens gateway clone IMAGE10021085 5' read COL23A1 mRNA [C0420282]   |
| A.31.P0012624  | 3.895 | 1.962 | 3.895 | GYPA         | up | GYPA         | Home sapiens uncharacterized LOC102723854 (LOC102723854), long non-coding RNA [NR_105855]  |
| A.33.P3262583  | 3.894 | 1.961 | 3.894 | MAS14        | up | MAS14        | Home sapiens glycoprotein A, MNS-related group (GYPA), mRNA [NM_022929]  |
| A.24.P04340    | 3.893 | 1.961 | 3.893 | AN07         | up | AN07         | Home sapiens variable charge, Y-linked (GVY), mRNA [NM_094679]   |
| A.23.P035495   | 3.892 | 1.961 | 3.892 | inc-BOO1-2   | up | inc-BOO1-2   | Home sapiens anectamin 7 (ANO7), transcript variant, NEGEP-L, mRNA [NM_00101891]   |
| A.33.P251312   | 3.891 | 1.960 | 3.891 | ATGZA        | up | ATGZA        | LINGGedia lincRNA [inc-BOO1-2], lincRNA [inc-BOO1-2]   |
| A.33.P211707   | 3.891 | 1.960 | 3.891 | PDGDLQ2      | up | PDGDLQ2      | Home sapiens autophasin related 2A (ATGZA), mRNA [NM_015104]   |
| A.23.P106145   | 3.890 | 1.959 | 3.890 | LPCAT4       | up | LPCAT4       | Home sapiens programmed cell death 1, ligand 2 (PDCD1LQ2), mRNA [NM_026239]  |
| A.23.P249009   | 3.888 | 1.959 | 3.888 | VCY          | up | VCY          | EROL-like (S. cerevisiae) [Source:HGNC Symbol;Acc:HGNC:12260] [ENST00000550069]  |
| A.33.P2921510  | 3.880 | 1.956 | 3.880 | STY13        | up | STY13        | Home sapiens tyrosylphosphatidylcholine acyltransferase 4 (LPCAT4), mRNA [NM_153813]   |
| A.24.P291828   | 3.877 | 1.955 | 3.877 | GD274        | up | GD274        | Home sapiens variable charge, Y-linked (GVY), mRNA [NM_094679]   |
| A.33.P3381513  | 3.877 | 1.955 | 3.877 | ORFH1        | up | ORFH1        | Home sapiens synaptotagmin-like 3 (STYL3), transcript variant 3, mRNA [NM_01009891]  |
| A.24.P366566   | 3.877 | 1.955 | 3.877 | MYZAP        | up | MYZAP        | Home sapiens CD274 molecule (GD274), transcript variant 1, mRNA [NM_014149]  |
| A.33.P3423874  | 3.874 | 1.954 | 3.874 |              | up |              | Home sapiens effector receptor, family 5, subfamily H, member 1 (ORFH1), mRNA [NM_01003338]  |
| A.33.P3480034  | 3.869 | 1.952 | 3.869 |              | up |              | Home sapiens myocardin zeta adhesion protein (MYZAP), transcript variant 1, mRNA [NM_001018100]  |
| A.22.P00005637 | 3.868 | 1.951 | 3.868 | NOS1AP       | up | NOS1AP       | transcriptionally-derived growth factor 1 pseudogene 2 [Source:HGNC Symbol;Acc:HGNC:11702] [ENST00000413322]                             |
| A.23.P74309    | 3.863 | 1.950 | 3.863 | XLOC10152339 | up | XLOC10152339 | Home sapiens nitric oxide synthase 1 (neuronal) adaptor protein (NOS1AP), transcript variant 1, mRNA [NM_014697]                         |
| A.21.P0013363  | 3.861 | 1.949 | 3.861 | KMT2E-AS1    | up | KMT2E-AS1    | BROAD Institute lincRNA XLOC10152339, lincRNA [TCOONS 2, 00229403]   |
| A.33.P23733264 | 3.859 | 1.948 | 3.859 | GLUC4        | up | GLUC4        | Home sapiens KMT2E antisense RNA 1 (head to head) (KMT2E-AS1), long non-coding RNA [NR_024586]   |
| A.33.P3219750  | 3.856 | 1.947 | 3.856 | ITPAL        | up | ITPAL        | Home sapiens chloride intracellular channel 4 (GLUC4), mRNA [NM_013943]  |
| A.22.P0022849  | 3.856 | 1.947 | 3.856 | SCEL         | up | SCEL         | Home sapiens topocrocin (alpha) transfer protein-like (ITPAL), transcript variant 1, mRNA [NM_024331]                                    |
| A.22.P00010184 | 3.854 | 1.947 | 3.854 | TNFATP3      | up | TNFATP3      | Home sapiens scellin (SCEL), transcript variant 1, mRNA [NM_144777]  |
| A.23.P50000    | 3.854 | 1.946 | 3.854 | LOC364671    | up | LOC364671    | Home sapiens tumor necrosis factor, alpha-induced protein 3 (TNFAP3), transcript variant 3, mRNA [NM_008290]                             |
| A.24.P157926   | 3.854 | 1.946 | 3.854 | inc-LIRR-4   | up | inc-LIRR-4   | Home sapiens uncharacterized LOC364671 (LOC364671), long non-coding RNA [NR_024498]  |
| A.33.P3333661  | 3.852 | 1.946 | 3.852 | PHACTR3      | up | PHACTR3      | LINGGedia lincRNA [inc-LIRR-4], lincRNA [inc-LIRR-4]   |
| A.22.P00039104 | 3.847 | 1.944 | 3.847 | LRR11        | up | LRR11        | CG82 pseudogene 1 [Source:Rfam;Acc:RF00380] [ENST0000039411]   |
| A.19.P262671   | 3.847 | 1.944 | 3.847 | LRP11        | up | LRP11        | CG82 pseudogene 1 [Source:Rfam;Acc:RF00380] [ENST0000039411]   |
| A.33.P326257   | 3.842 | 1.942 | 3.842 | SEPLG        | up | SEPLG        | low density lipoprotein receptor-related protein 11 [Source:HGNC Symbol;Acc:HGNC:16330] [ENST00000482611]                                |
| A.33.P3420078  | 3.837 | 1.940 | 3.837 | YIF1B        | up | YIF1B        | low density lipoprotein receptor-related protein 11 [Source:HGNC Symbol;Acc:HGNC:16330] [ENST0000037398]                                 |
| A.23.P44880    | 3.835 | 1.939 | 3.835 | YIF1B        | up | YIF1B        | Home sapiens selection P ligand (SEPLG), transcript variant 2, mRNA [NM_003006]  |
| A.23.P142259   | 3.835 | 1.939 | 3.835 | TOM1L2       | up | TOM1L2       | Home sapiens Yef1 interacting factor homolog B (S. cerevisiae) (YIF1B), transcript variant 7, mRNA [NM_001145463]                        |
| A.23.P37135    | 3.834 | 1.939 | 3.834 | CSMD2        | up | CSMD2        | Home sapiens target of myb-like 2 (Ghskrn) (TOM1L2), transcript variant 3, mRNA [NM_001082966]   |
| A.33.P242820   | 3.833 | 1.938 | 3.833 | LINC01204    | up | LINC01204    | CLB and Sush1 multiple domains 2 [Source:HGNC Symbol;Acc:HGNC:19240] [ENST00000338292]   |
| A.19.P0021556  | 3.832 | 1.938 | 3.832 | PCDHGC5      | up | PCDHGC5      | Home sapiens long intergenic non-protein coding RNA 1204 (LINC01204), transcript variant 2, long non-coding RNA [NR_046445]              |
| A.32.P32856    | 3.832 | 1.938 | 3.832 | B4GALNT3     | up | B4GALNT3     | Home sapiens protocadherin gamma subfamily C, 5 (PCDHGC5), transcript variant 2, mRNA [NM_029407]  |
| A.33.P322706   | 3.832 | 1.938 | 3.832 | TRPV3        | up | TRPV3        | Home sapiens beta-1,4-N-acetyl-galactosaminyl transferase 3 (B4GALNT3), mRNA [NM_179393]   |
| A.23.P426343   | 3.828 | 1.937 | 3.828 | inc-ZNF85-1  | up | inc-ZNF85-1  | Home sapiens transient receptor potential cation channel, subfamily V, member 3 (TRPV3), transcript variant 2, mRNA [NM_1429258-1]       |
| A.21.P0012223  | 3.825 | 1.935 | 3.825 | ARG2         | up | ARG2         | Home sapiens transient receptor potential cation channel, subfamily V, member 3 (TRPV3), transcript variant 2, mRNA [NM_1429258-1]       |
| A.22.P00018311 | 3.818 | 1.933 | 3.818 | INPP4B       | up | INPP4B       | Home sapiens inositol polyphosphate 4-phosphatase, type II, 109kDa (INPP4B), transcript variant 1, mRNA [NM_003886]                      |
| A.23.P128728   | 3.815 | 1.932 | 3.815 | ZNF575       | up | ZNF575       | Home sapiens zinc finger protein 575 (ZNF575), mRNA [NM_174945]  |
| A.33.P3214625  | 3.808 | 1.929 | 3.808 | SFRY2        | up | SFRY2        | Home sapiens sporily homolog 2 (Drosophila) (SFRY2), mRNA [NM_003842]  |
| A.23.P401084   | 3.807 | 1.929 | 3.807 | ERCC2        | up | ERCC2        | Home sapiens excision repair cross-complementation group 2 (ERCC2), transcript variant 1, mRNA [NM_000400]                               |
| A.23.P128368   | 3.806 | 1.928 | 3.806 | NOP9         | up | NOP9         | Home sapiens NOP9 nuclear protein (NOP9), transcript variant 1, mRNA [NM_174913]   |
| A.23.P130488   | 3.804 | 1.927 | 3.804 | RIPK2        | up | RIPK2        | Home sapiens colony stimulating factor 2 receptor, beta, low-affinity (granulocyte macrophage CSF2RB), mRNA [NM_000395]                  |
| A.23.P226244   | 3.802 | 1.927 | 3.802 | MAGI1-T1     | up | MAGI1-T1     | PREDICTED: Home sapiens MAGI1 intronic receptor 1 (non-protein coding) (MAGI1-T1), misc. RNA [XR_110233]                                 |
| A.23.P292106   | 3.802 | 1.927 | 3.802 | LINC00472    | up | LINC00472    | Home sapiens long intergenic non-protein coding RNA 472 (LINC00472), transcript variant 1, long non-coding RNA [NR_121072]               |
| A.33.P3341442  | 3.801 | 1.926 | 3.801 | MYO5B        | up | MYO5B        | Home sapiens aquaporin 6, kidney specific (AQP6), mRNA [NM_031892]   |
| A.33.P3843285  | 3.801 | 1.926 | 3.801 | MTR2         | up | MTR2         | Home sapiens aquaporin 6, kidney specific (AQP6), mRNA [NM_031892]   |
| A.19.P0031685  | 3.800 | 1.926 | 3.800 | PLCX2        | up | PLCX2        | Home sapiens phospholipid transfer protein 2 (MTR2), transcript variant 2, mRNA [NM_138119]  |
| A.23.P502760   | 3.800 | 1.926 | 3.800 | MYO5B        | up | MYO5B        | Home sapiens phospholipid transfer protein 2 (MTR2), transcript variant 2, mRNA [NM_138119]  |
| A.22.P253752   | 3.800 | 1.926 | 3.800 | MDM2         | up | MDM2         | transcript variant 2, mRNA [NM_153268]   |
| A.33.P3214339  | 3.798 | 1.925 | 3.798 | inc-ERICH1-3 | up | inc-ERICH1-3 | Home sapiens ezrin, radixin and moesin-like protein phosphatase C, X domain containing 2 (PLCX2), transcript variant 2, mRNA [NM_153268] |
| A.33.P3841821  | 3.795 | 1.924 | 3.795 |              | up |              | Home sapiens ezrin, radixin and moesin-like protein phosphatase C, X domain containing 2 (PLCX2), transcript variant 1, mRNA [NM_153268] |
| A.33.P3841821  | 3.792 | 1.923 | 3.792 |              | up |              | Home sapiens MDM2 proto-oncogene, E3 ubiquitin protein ligase (MDM2), transcript variant 1, mRNA [NM_002392]                             |
| A.21.P0005781  | 3.791 | 1.923 | 3.791 |              | up |              | LINGGedia lincRNA [inc-ERICH1-3], lincRNA [inc-ERICH1-3]   |

|                |    |       |       |                       |   |
|----------------|----|-------|-------|-----------------------|---|
| A.33.P3403007  | up | 3.790 | 1.922 | LOC648149             | Homo sapiens cDNA FLJ14355, clone BRAWH2016724, [AKI23346]  |
| A.23.PF59588   | up | 3.790 | 1.922 | WNT5B                 | Homo sapiens wingless-type MMTV integration site family, member 5B (WNT5B), transcript variant 2, mRNA, [NM_030775]                             |
| A.21.P0007219  | up | 3.787 | 1.921 | inc-APO00769.1-1      | LINC624a lincRNA, [inc-APO00769.1-1], lincRNA, [inc-APO00769.1-1]   |
| A.33.P320742   | up | 3.787 | 1.921 | inc-APO00769.1-1      | LINC624a lincRNA, [inc-APO00769.1-1], lincRNA, [inc-APO00769.1-1]   |
| A.23.P215111   | up | 3.785 | 1.920 | ATPRV044              | Homo sapiens ATPase, H <sup>+</sup> transporting, lysosomal VO subunit a4 (ATPRV044), transcript variant 1, mRNA, [NM_020632]                   |
| A.24.P461467   | up | 3.784 | 1.920 | inc-CATSPEP3-3        | LINC624a lincRNA, [inc-CATSPEP3-3], lincRNA, [inc-CATSPEP3-3]   |
| A.21.P0004300  | up | 3.781 | 1.919 | EFEMP2                | Homo sapiens EGF containing fibulin-like extracellular matrix protein 2 (EFEMP2), transcript variant 1, mRNA, [NM_018338]                       |
| A.33.P336780   | up | 3.781 | 1.919 | inc-TASP1-4           | LINC624a lincRNA, [inc-TASP1-4], lincRNA, [inc-TASP1-4]   |
| A.21.P0010055  | up | 3.779 | 1.918 | inc-TASP1-4           | LINC624a lincRNA, [inc-TASP1-4], lincRNA, [inc-TASP1-4]   |
| A.33.P336780   | up | 3.778 | 1.918 | MAP1-AS1              | Homo sapiens MAP1-associated protein 1 (MAP1-AS1), long non-coding RNA, [NR_024569]   |
| A.23.P323275   | up | 3.778 | 1.918 | MAP1-AS1              | Homo sapiens MAP1-associated protein 1 (MAP1-AS1), long non-coding RNA, [NR_024569]   |
| A.23.P368123   | up | 3.778 | 1.917 | SKORP1                | Cysteine-rich secreted protein 2-like 4 (SourceHGNC:Symbol:AC116387.1) [ENS:GT000043843.1]  |
| A.33.P3233624  | up | 3.774 | 1.916 | NEURL1                | Homo sapiens neuronal Es ubiquitin protein ligase 1 (NEURL1), mRNA, [NM_004210]   |
| A.23.P141894   | up | 3.773 | 1.916 | PVR                   | Homo sapiens adenosine receptor (PVR), transcript variant 1, mRNA, [NM_006650]  |
| A.23.P308817   | up | 3.770 | 1.914 | TAQLN3                | Homo sapiens transglutinin 3 (TAQLN3), transcript variant 1, mRNA, [NM_015256]  |
| A.23.P3403708  | up | 3.767 | 1.913 | inc-UIK4-1            | Homo sapiens urokinase (tektin) 2 (tektin2) (TEKT2), mRNA, [NM_014466]  |
| A.23.P456955   | up | 3.765 | 1.913 | LCN2                  | Homo sapiens lipocalin 2 (LCN2), mRNA, [NM_005564]  |
| A.23.P189437   | up | 3.763 | 1.912 | APOBEC3B              | Homo sapiens apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3B (APOBEC3B), transcript variant 1, mRNA, [NM_004900]            |
| A.24.P68027    | up | 3.758 | 1.910 | inc-UIK4-1            | Homo sapiens urokinase (tektin) 2 (tektin2) (TEKT2), mRNA, [NM_014466]  |
| A.22.P0007227  | up | 3.757 | 1.910 | PWML2                 | Homo sapiens piwi-like RNA-mediated gene silencing 2 (PWML2), transcript variant 2, mRNA, [NM_018086]   |
| A.23.P253074   | up | 3.757 | 1.909 | UBE2D1                | Homo sapiens ubiquitin-conjugating enzyme E2D 1 (UBE2D1), transcript variant 1, mRNA, [NM_003338]   |
| A.24.P13032    | up | 3.755 | 1.909 | ASAP2                 | Homo sapiens ArpGAP with SH3 domain, akyrin repeat and PH domain 2 (ASAP2), transcript variant 1, mRNA, [NM_033650]                             |
| A.24.P36240    | up | 3.754 | 1.908 | ETHE1                 | Homo sapiens ethylene response factor 1 (ETHE1), mRNA, [NM_014387]  |
| A.21.P142384   | up | 3.752 | 1.907 | GRP78A                | Homo sapiens glucose-corticosteroid inducible protein 78 kDa (S. cerevisiae) (GRP78A), mRNA, [NM_015703]  |
| A.23.P236303   | up | 3.752 | 1.907 | MIR503HG              | Homo sapiens MIR503 host gene (concordant coding) (MIR503HG), long non-coding RNA, [NR_024607]  |
| A.19.P0811178  | up | 3.748 | 1.907 | ACSBG1                | Homo sapiens acyl-CoA synthetase bubblegum family member 1 (ACSBG1), transcript variant 1, mRNA, [NM_015162]                                    |
| A.23.P44488    | up | 3.746 | 1.905 | ACSBG1                | Homo sapiens acyl-CoA synthetase bubblegum family member 1 (ACSBG1), transcript variant 1, mRNA, [NM_015162]                                    |
| A.33.P3212109  | up | 3.745 | 1.905 | DCDC2                 | Homo sapiens doublecortin domain containing 2 (DCDC2), transcript variant 1, mRNA, [NM_018356]  |
| A.24.P250815   | up | 3.738 | 1.902 | POF1B                 | Homo sapiens premature ovarian failure 1B (POF1B), mRNA, [NM_024921]  |
| A.23.P118362   | up | 3.736 | 1.902 | EMP3                  | Homo sapiens epithelial membrane protein 3 (EMP3), mRNA, [NM_001425]  |
| A.32.P241981   | up | 3.736 | 1.902 | PALGPS1               | Homo sapiens Pal GEF with PH domain and SH3 binding motif 1 (PALGPS1), transcript variant 1, mRNA, [NM_014636]                                  |
| A.23.P59064    | up | 3.736 | 1.901 | CADM4                 | Homo sapiens cell adhesion molecule 4 (CADM4), mRNA, [NM_145296]  |
| A.33.P321372   | up | 3.733 | 1.900 | SRGAP2                | Homo sapiens SUI-ROBO Rho GTPase activating protein 2 (SRGAP2), transcript variant 4, mRNA, [NM_001309552]                                      |
| A.33.P3273290  | up | 3.728 | 1.898 | ZNF28                 | Homo sapiens zinc finger protein 28 (SourceHGNC:Symbol:AC116387.1) [ENS:GT000046469]  |
| A.33.P341197   | up | 3.726 | 1.897 | IGFBP5                | Homo sapiens insulin-like growth factor 5 (IGFBP5), transcript variant 2, mRNA, [NM_031163]   |
| A.23.P434347   | up | 3.723 | 1.896 | ITSN2                 | Homo sapiens itersactin 2 (ITSN2), transcript variant 2, mRNA, [NM_171529]  |
| A.23.P32722    | up | 3.722 | 1.896 | MYO1B                 | Homo sapiens myosin-binding protein 1B (MYO1B), transcript variant 2, mRNA, [NM_039327]   |
| A.22.P0002824  | up | 3.722 | 1.895 | inc-CHNK1-2           | LINC624a lincRNA, [inc-CHNK1-2], lincRNA, [inc-CHNK1-2]   |
| A.22.P00000447 | up | 3.720 | 1.895 | BLZF1                 | Homo sapiens basic leucine zipper nuclear factor 1 (BLZF1), mRNA, [NM_033666]   |
| A.24.P192569   | up | 3.720 | 1.895 | GOLGA8M               | Homo sapiens golgin A8 family, member A1 (GOLGA8M), mRNA, [NM_001282468]  |
| A.24.P264166   | up | 3.719 | 1.895 | Q21WG5.9BJRP.Q21WG5.1 | Q21WG5.9BJRP.Q21WG5.1, Transcriptional regulator, MafK family, partial (103) [HG2212539]  |
| A.19.P00322663 | up | 3.717 | 1.894 | LINC-PINT             | Homo sapiens long intergenic non-protein coding RNA, p33 induced transcript (LINC-PINT), transcript variant 4, long non-coding RNA, [NR_108851] |
| A.33.P3264417  | up | 3.716 | 1.894 | LINC-PINT             | Homo sapiens long intergenic non-protein coding RNA, p33 induced transcript (LINC-PINT), transcript variant 4, long non-coding RNA, [NR_108851] |
| A.33.P3241651  | up | 3.716 | 1.894 | ADAMTS17              | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif, 17 (ADAMTS17), mRNA, [NM_138057]  |
| A.22.P00049241 | up | 3.713 | 1.892 | inc-NEFM1-1           | long intergenic non-protein coding RNA 505 [SourceHGNC:Symbol:AC116387.1] [ENS:GT0000465247]  |
| A.21.P0003155  | up | 3.712 | 1.892 | LINC00635             | Homo sapiens long intergenic non-protein coding RNA 635 (LINC00635), transcript variant 2, long non-coding RNA, [NR_015414]                     |
| A.23.P427217   | up | 3.711 | 1.892 | JMJD1C                | Homo sapiens jumonji domain containing 1C (JMJD1C), transcript variant 1, mRNA, [NM_032776]   |
| A.24.P51008    | up | 3.708 | 1.891 | DOBLED                | Homo sapiens dissonin, CUB and LGG1 domain containing 2 (DOBLED), mRNA, [NM_089277]   |
| A.22.P0025863  | up | 3.708 | 1.891 | inc-MDC52-1           | LINC624a lincRNA, [inc-MDC52-1], lincRNA, [inc-MDC52-1]   |
| A.33.P328128   | up | 3.705 | 1.889 | ERCC1                 | LINC624a lincRNA, [inc-MDC52-1], lincRNA, [inc-MDC52-1]   |
| A.23.P315836   | up | 3.703 | 1.889 | BAMAP2                | Homo sapiens BAI1-associated protein 2 (BAMAP2), transcript variant 2, mRNA, [NM_017451]  |
| A.24.P917819   | up | 3.702 | 1.888 | ANKRD30BP2            | Homo sapiens ankyrin repeat domain 30B pseudogene 2 (ANKRD30BP2), non-coding RNA, [NR_028916]   |
| A.33.P3275233  | up | 3.702 | 1.888 | LOC10031792           | Homo sapiens cDNA FLJ38242, clone THYMU2001727, [AK039361]  |
| A.21.P0008435  | up | 3.702 | 1.888 | inc-NEFM1-1           | LINC624a lincRNA, [inc-NEFM1-1], lincRNA, [inc-NEFM1-1]   |
| A.23.P144348   | up | 3.701 | 1.888 | SLIT2                 | Homo sapiens slit homolog 2 (Presophila) (SLIT2), transcript variant 1, mRNA, [NM_004787]   |
| A.33.P3380063  | up | 3.700 | 1.888 | ADAMTS14              | Homo sapiens ADAMTS-like 4 (ADAMTS14), transcript variant 2, mRNA, [NM_025008]  |
| A.24.P12126    | up | 3.700 | 1.887 | STRO2                 | Homo sapiens STRO2 calcium binding protein 2 (STRO2), transcript variant 1, mRNA, [NM_130772]   |
| A.33.P331979   | up | 3.698 | 1.887 | MYO5B                 | Homo sapiens myosin VB (MYO5B), mRNA, [NM_001080467]  |
| A.23.P116802   | up | 3.694 | 1.885 | ART4                  | Homo sapiens ADP-ribosyltransferase 4 (Dombrock blood group) (ART4), mRNA, [NM_021071]  |
| A.22.P0000446  | up | 3.694 | 1.885 | inc-AC083864.4-1-1    | LINC624a lincRNA, [inc-AC083864.4-1-1], lincRNA, [inc-AC083864.4-1-1]   |
| A.33.P331022   | up | 3.693 | 1.885 | PWML2                 | PREDICATED: Homo sapiens piwi-like RNA-mediated gene silencing 2 (PWML2), transcript variant X2, mRNA, [XM_00273591]                            |
| A.24.P410463   | up | 3.692 | 1.884 | TRPM6                 | Homo sapiens transient receptor potential cation channel, subfamily M, member 6 (TRPM6), transcript variant 6, mRNA, [NM_016662]                |
| A.24.P309533   | up | 3.689 | 1.883 | TMCC3                 | Homo sapiens transmembrane and coiled-coil domain family 3 (TMCC3), transcript variant 1, mRNA, [NM_020698]                                     |
| A.21.P0002676  | up | 3.689 | 1.883 | inc-MKR67P-1-3        | LINC624a lincRNA, [inc-MKR67P-1-3], lincRNA, [inc-MKR67P-1-3]   |
| A.22.P00005529 | up | 3.688 | 1.883 | LOC102724096          | Homo sapiens uncharacterized LOC102724096 (LOC102724096), long non-coding RNA, [NR_126574]  |
| A.33.P3368371  | up | 3.687 | 1.882 | GPX3                  | Homo sapiens glutathione peroxidase 3 (glutath) (GPX3), mRNA, [NM_002084]   |
| A.21.P0014514  | up | 3.685 | 1.882 | HNC45-1-G1Z-R.HNC     | Homo sapiens HNC45-1-G1Z-R.HNC (Human Normal Cartilage) Homo sapiens cDNA, mRNA sequence, [BG0297474]   |

|                |       |       |    |                        |   |
|----------------|-------|-------|----|------------------------|---|
| A.23.P114803   | 3.682 | 1.860 | up | HSPA6                  | Homo sapiens heat shock 70kDa protein 6 (HSP70B) (HSPA6). mRNA [NM_002105]  |
| A.33.P230723   | 3.682 | 1.880 | up | FAM114B                | Homo sapiens family with sequence similarity 154, member B (FAM114B). mRNA [NM_001009220]   |
| A.22.P00017676 | 3.681 | 1.880 | up |                        | Homo sapiens long intergenic non-protein coding RNA 520 (LINCO00520). transcript variant 1, long non-coding RNA [NR_028796]                 |
| A.22.P00008840 | 3.680 | 1.880 | up | LINC00920              | Homo sapiens long intergenic non-protein coding RNA 520 (LINCO00520). transcript variant 1, long non-coding RNA [NR_028796]                 |
| A.23.P110791   | 3.680 | 1.879 | up | GSF1R                  | Homo sapiens colony-stimulating factor 1 receptor (GSF1R). transcript variant 1, mRNA [NM_005211]   |
| A.33.P277883   | 3.677 | 1.880 | up |                        | Homo sapiens uncharacterized LOC101929931 (LOC101929931). long non-coding RNA [NR_039829]   |
| A.33.P2418221  | 3.677 | 1.878 | up |                        | Homo sapiens uncharacterized LOC102989580 (LOC102989580). long non-coding RNA [NR_103774]   |
| A.33.P3917007  | 3.675 | 1.878 | up | ASAP1                  | Homo sapiens ASAP with SH3 domain, ankyrin repeat and PH domain 1 (ASAP1). transcript variant 2, mRNA [NM_001247996]                        |
| A.21.P0006961  | 3.672 | 1.877 | up | inc-CALML5-5           | LINCpedia lincRNA (inc-CALML5-5) (lincRNA [inc-CALML5-5]). transcript variant 1, long non-coding RNA [NR_038283]                            |
| A.22.P00007924 | 3.672 | 1.877 | up | TEX2B-AS1              | Homo sapiens TEX2B antisense RNA 1 (TEX2B-AS1). transcript variant 1, long non-coding RNA [NM_002511]                                       |
| A.23.P211846   | 3.669 | 1.875 | up | KONSS1                 | Homo sapiens potassium voltage-gated channel, modifier subfamily S, member 1 (KONSS1). mRNA [NM_002511]                                     |
| A.23.P189351   | 3.667 | 1.875 | up | SH3GL2                 | Homo sapiens SH3-domain GRB2-like 2 (SH3GL2). mRNA [NM_003026]  |
| A.33.P2710112  | 3.666 | 1.874 | up | inc-CTD-2617M22.14.1-1 | Homo sapiens cDNA FLJ44789, fig. clone BRAC3038760, [AK1126743]   |
| A.23.P438988   | 3.666 | 1.874 | up | EPHA4                  | Homo sapiens ephrasin hydrolase 4 (EPHA4). mRNA [NM_173857]   |
| A.23.P360316   | 3.665 | 1.874 | up | FUT3                   | Homo sapiens fucosyltransferase 3 (galactoside 3(4)-L-fucosyltransferase, Lewis blood group) (FUT3). transcript variant 1, mRNA [NM_000148] |
| A.21.P0010041  | 3.665 | 1.874 | up | LINC01430              | Homo sapiens long intergenic non-protein coding RNA 1430 (LINCO1430). long non-coding RNA [NR_109893]                                       |
| A.22.P00014057 | 3.665 | 1.874 | up | SMMS5                  | Homo sapiens small integral membrane protein 5 (SMMS5). transcript variant 1, mRNA [NM_00182905]  |
| A.33.P247057   | 3.663 | 1.873 | up | BRAL2                  | Homo sapiens RAS protein activator like 2 (BRAL2). transcript variant 2, mRNA [NM_170692]   |
| A.23.P202747   | 3.659 | 1.872 | up | LOC101927418           | Homo sapiens uncharacterized LOC101927418 (LOC101927418). long non-coding RNA [NR_110350]   |
| A.22.P0008886  | 3.659 | 1.871 | up | PAOT1E2                | Homo sapiens family with sequence similarity 71, member P2 (PAOT1E2). mRNA [NM_001454029]   |
| A.33.P3668078  | 3.658 | 1.871 | up | LOC1268587             | Homo sapiens cDNA FLJ40834, fig. clone TES12247924, [AK1207553]   |
| A.33.P3361037  | 3.656 | 1.870 | up | ERCC1                  | Homo sapiens vesion repair cross-complementation group 1 (ERCC1). transcript variant 1, mRNA [NM_120001]                                    |
| A.33.P2217566  | 3.655 | 1.870 | up | TRAB2B                 | Homo sapiens TRAB domain containing 2B (TRAB2B). mRNA [NM_001194886]  |
| A.22.P00015824 | 3.655 | 1.870 | up | SMTN                   | smoothelin [Source:HGNC Symbol;Acc:HGNC:11126] [ENST0000043353]   |
| A.22.P00008847 | 3.654 | 1.870 | up | BROAD                  | PREDICTED: Homo sapiens uncharacterized LOC102724075 (LOC102724075). mRNA [XR_425512]   |
| A.21.P0010580  | 3.649 | 1.868 | up | COL12                  | BROAD Institute lincRNA (COL12) (000657). lincRNA [TCONS 02_00000881]   |
| A.22.P360227   | 3.647 | 1.867 | up | CCIN                   | Homo sapiens calcin (CCIN). mRNA [NM_009893]  |
| A.22.P00020348 | 3.647 | 1.867 | up | HDAC11-AS1             | Homo sapiens HDAC11 antisense RNA 1 (HDAC11-AS1). long non-coding RNA [NR_046600]   |
| A.33.P3481737  | 3.644 | 1.866 | up | NLN                    | Homo sapiens neuroblast (metalloproteinase, M3 family) (NLN). mRNA [NM_020728]  |
| A.22.P00020152 | 3.644 | 1.865 | up | inc-RPS4X2P1-1         | LINCpedia lincRNA (inc-RPS4X2P1-1). lincRNA [inc-RPS4X2P1-1]  |
| A.33.P3265159  | 3.643 | 1.865 | up | GATP5                  | Homo sapiens cDNA clone IMAGE5203707, containing frame-shift errors. [BC110960]   |
| A.33.P2327889  | 3.640 | 1.864 | up | RMND5A                 | Homo sapiens required for meiotic nuclear division 5 homolog A (S. cerevisiae) (RMND5A). mRNA [NM_027780]                                   |
| A.33.P3504002  | 3.635 | 1.862 | up | LINC01209              | Homo sapiens long intergenic non-protein coding RNA 1209 (LINCO1209). long non-coding RNA [NR_038893]                                       |
| A.22.P00080583 | 3.634 | 1.862 | up | inc-KGTD10-1           | LINCpedia lincRNA (inc-KGTD10-1). lincRNA [inc-KGTD10-1]  |
| A.21.P0010589  | 3.633 | 1.861 | up | LOC101927451           | Homo sapiens P23A2 antisense RNA 1 (P23A2-AS1). long non-coding RNA [NR_027982]   |
| A.24.P213126   | 3.630 | 1.860 | up | RPS26L1                | Homo sapiens RPS26 antisense RNA 1 (RPS26-AS1). long non-coding RNA [NR_031463]   |
| A.24.P173746   | 3.628 | 1.859 | up | RALGAP2                | Homo sapiens Ras GEF with PH domain and SH3 binding motif 2 (RALGAP2). transcript variant 10, mRNA [NM_159868]                              |
| A.33.P3306715  | 3.628 | 1.859 | up | SIGIR13                | Homo sapiens chromosome 8 centromere frame 132 (C6orf132). mRNA [NM_001164446]  |
| A.24.P51201    | 3.623 | 1.857 | up | HERC3                  | Homo sapiens hect domain and RLD 3, mRNA (cDNA clone IMAGE405036). complete cds. [BC038960]   |
| A.21.P0000140  | 3.623 | 1.857 | up | LEPROT                 | Homo sapiens lepin receptor overlapping transcript (LEPROT). transcript variant 3, mRNA [NM_001198883]                                      |
| A.21.P00017466 | 3.623 | 1.857 | up | inc-CEP44-1            | LINCpedia lincRNA (inc-CEP44-1). lincRNA [inc-CEP44-1]  |
| A.22.P00017466 | 3.621 | 1.856 | up | inc-VS1G2-1            | LINCpedia lincRNA (inc-VS1G2-1). lincRNA [inc-VS1G2-1]  |
| A.24.P388703   | 3.620 | 1.856 | up | LOC1438833             | Homo sapiens uncharacterized LOC1438833 (LOC1438833). transcript variant 2, long non-coding RNA [NR_122090]                                 |
| A.22.P00022057 | 3.619 | 1.856 | up | LOC101927782           | Homo sapiens uncharacterized LOC101927782 (LOC101927782). long non-coding RNA [NR_120629]   |
| A.22.P00015680 | 3.618 | 1.855 | up | LOC101930318           | PREDICTED: Homo sapiens uncharacterized LOC101930318 (LOC101930318). mRNA [XR_247699]   |
| A.22.P00224633 | 3.614 | 1.854 | up | inc-NTLN-2             | LINCpedia lincRNA (inc-NTLN-2). lincRNA [inc-NTLN-2]  |
| A.33.P3240698  | 3.614 | 1.854 | up | RIF1A                  | Homo sapiens Rhesus family member 1A (RIF1A). transcript variant 1, mRNA [NM_00244003]  |
| A.33.P3610406  | 3.610 | 1.852 | up | ECEL1P2                | Homo sapiens endonuclease converting enzyme-like 1, pseudogene 2 (ECEL1P2). non-coding RNA [NR_028450]                                      |
| A.24.P385190   | 3.610 | 1.852 | up | SLC4A1                 | Homo sapiens solute carrier family 4 (anion exchanger), member 1 (Dietp blood group) (SLC4A1). mRNA [NM_000342]                             |
| A.33.P3434516  | 3.609 | 1.852 | up | LOC100129817           | Homo sapiens uncharacterized LOC100129817 (LOC100129817). long non-coding RNA [NR_045112]   |
| A.23.P366809   | 3.609 | 1.852 | up | LINC00346              | Homo sapiens long intergenic non-protein coding RNA 346 (LINCO0346). long non-coding RNA [NR_027701]  |
| A.22.P00009454 | 3.608 | 1.851 | up | inc-MAGEB1-1           | LINCpedia lincRNA (inc-MAGEB1-1). lincRNA [inc-MAGEB1-1]  |
| A.23.P366527   | 3.607 | 1.851 | up | SGCA                   | Homo sapiens sarcoglycan, alpha (50kDa dystrophin-associated glycoprotein) (SGCA). transcript variant 1, mRNA [NM_000023]                   |
| A.24.P323114   | 3.605 | 1.849 | up | ANKAP3                 | Homo sapiens annexin A2 pseudogene 3 (ANKAP3). non-coding RNA [NR_001446]   |
| A.24.P25684    | 3.601 | 1.848 | up | UBE2D3                 | ubiquitin-conjugating enzyme E2D 3 [Source:HGNC Symbol;Acc:HGNC:12476] [ENST00000503418]  |
| A.24.P254569   | 3.601 | 1.848 | up | PGM5                   | Homo sapiens phosphoglucomutase 5 (PGM5). mRNA [NM_021985]  |
| A.23.P253561   | 3.599 | 1.847 | up | TFPAL                  | Homo sapiens (cophore) (alpha) transfer protein-like (TFPAL). transcript variant 1, mRNA [NM_024331]  |
| A.23.P292883   | 3.598 | 1.847 | up | EDHR5                  | Homo sapiens cadherin-related family member 5 (CDHR5). transcript variant 1, mRNA [NM_021924]   |
| A.21.P0010833  | 3.597 | 1.847 | up | LINC01057              | Homo sapiens long intergenic non-protein coding RNA 107 (LINCO107). long non-coding RNA [NR_041311]   |
| A.23.P374782   | 3.597 | 1.847 | up | SHKBP1                 | Homo sapiens SH3-domain kinase binding protein 1 (SHKBP1). transcript variant 2, mRNA [NM_001024668]  |
| A.33.P3005790  | 3.597 | 1.847 | up | NOSS                   | Homo sapiens nitric oxide synthase 3 (endothelial cell) (NOSS). transcript variant 1, mRNA [NM_000603]                                      |
| A.23.P218646   | 3.596 | 1.846 | up | TNFRSF8                | Homo sapiens tumor necrosis factor receptor superfamily, member 8b, decoy (TNFRSF8). mRNA [NM_003823]                                       |
| A.24.P202587   | 3.596 | 1.846 | up | ITPKC                  | Homo sapiens inositol-tri-phosphate 3-kinase C (ITPKC). mRNA [NM_025194]  |

|                |       |      |    |               |   |
|----------------|-------|------|----|---------------|---|
| A.23.P117464   | 3.993 | 1845 | up | TPP22         | Homo sapiens tubulin polymerization-promoting protein family member 2 (TPP22), mRNA [NM.172846]                               |
| A.24.P292801   | 3.993 | 1845 | up | SLC33A1       | Homo sapiens solute carrier family 31 (copper transporter), member 1 (SLC33A1), mRNA [NM.001859]                              |
| A.23.P394561   | 3.992 | 1845 | up | C1orf425      | Homo sapiens chromosome 18 open reading frame 25 (C1orf425), transcript variant 1, mRNA [NM.149055]                           |
| A.21.P0001639  | 3.990 | 1844 | up | lnc-TAF5L-1   | LINCpedia lincRNA (lnc-TAF5L-1), lincRNA [lnc-TAF5L-1]  |
| A.33.P393962   | 3.990 | 1844 | up | MFSO12        | Homo sapiens major facilitator superfamily domain containing 12 (MFSO12), transcript variant 3, mRNA [NM.174953]              |
| A.33.P393962   | 3.989 | 1844 | up | lnc-ATF5L-1   | Homo sapiens major facilitator superfamily domain containing 12 (MFSO12), transcript variant 3, mRNA [NM.174953]              |
| A.33.P393962   | 3.989 | 1844 | up | ATF5L1        | Homo sapiens major facilitator superfamily domain containing 12 (MFSO12), transcript variant 3, mRNA [NM.174953]              |
| A.33.P393962   | 3.989 | 1844 | up | ATF5L1        | Homo sapiens major facilitator superfamily domain containing 12 (MFSO12), transcript variant 3, mRNA [NM.174953]              |
| A.33.P393962   | 3.989 | 1844 | up | ATF5L1        | Homo sapiens major facilitator superfamily domain containing 12 (MFSO12), transcript variant 3, mRNA [NM.174953]              |
| A.21.P0010386  | 3.984 | 1842 | up | LINC00889     | Homo sapiens long intergenic non-protein coding RNA 899 (LINC00889), long non-coding RNA [NR.027688]                          |
| A.22.P00003769 | 3.984 | 1841 | up | lnc-GDK1-1    | LINCpedia lincRNA (lnc-GDK1-1), lincRNA [lnc-GDK1-1]  |
| A.22.P00003769 | 3.980 | 1840 | up | lnc-LARP1B-2  | Homo sapiens cDNA EL141533, fls. clone BR1742018179, [AK123527]   |
| A.23.P200976   | 3.979 | 1838 | up | HY1           | Homo sapiens hydroxycarboxylate isomerase (cellular), (HY1), transcript variant 3, mRNA [NM.001108680]                        |
| A.22.P00015716 | 3.976 | 1838 | up | lnc-SYTI13-2  | LINCpedia lincRNA (lnc-SYTI13-2), lincRNA [lnc-SYTI13-2]  |
| A.33.P39308307 | 3.973 | 1837 | up | KRT26         | Homo sapiens keratin 26, type I, (KRT26), mRNA [NM.181639]  |
| A.33.P39308307 | 3.972 | 1837 | up | LAMA4         | Homo sapiens laminin, alpha 4, (LAMA4), transcript variant 3, mRNA [NM.00105207]  |
| A.23.P117982   | 3.972 | 1837 | up | ATP2C2        | Homo sapiens ATPase, Ca <sup>++</sup> transporting, type 2C, member 2 (ATP2C2), transcript variant 2, mRNA [NM.014681]        |
| A.33.P3937446  | 3.971 | 1836 | up | LOC847244     | long intergenic non-protein coding RNA 1198 [Source:HGNC Symbol;Acc:GNC49398] [ENS:TM000065592]                               |
| A.33.P39211969 | 3.969 | 1836 | up | FRB3          | Homo sapiens v-src-b2 avian erythroblastic leukemia viral oncogene homolog 3 (FRB3), transcript variant 5, mRNA [NM.00100915] |
| A.33.P3921229  | 3.968 | 1835 | up | HIST2H2BF     | Histone cluster 2, H2BF [Source:HGNC Symbol;Acc:HGNC24700] [ENS:TM000369167]  |
| A.32.P379467   | 3.965 | 1834 | up | ISLR2         | Homo sapiens immunoglobulin superfamily containing leucine-rich repeat 2 (ISLR2), transcript variant 2, mRNA [NM.020819]      |
| A.33.P39210180 | 3.965 | 1834 | up | TLE1          | Homo sapiens tumor suppressor protein 1, (TLE1), transcript variant 1, mRNA [NM.005504]                                       |
| A.24.P52921    | 3.963 | 1833 | up | BCAT1         | Homo sapiens branched chain amino acid transaminase 1, cytosolic (BCAT1), transcript variant 1, mRNA [NM.005504]              |
| A.33.P39293588 | 3.963 | 1833 | up | ANGPTL4       | Homo sapiens angiopoietin-like 4 (ANGPTL4), transcript variant 1, mRNA [NM.139314]  |
| A.33.P39419831 | 3.961 | 1832 | up | C20orf62      | chromosome 20 open reading frame 62 [Source:HGNC Symbol;Acc:GNC.16195] [ENS:TM0000306731]                                     |
| A.21.P0000777  | 3.959 | 1831 | up | lnc-SETD7-1   | AGENCOURT_7941198_NIH_MGC_88_Homo sapiens cDNA clone IMAGE:6011472_5, mRNA sequence [BU162972]                                |
| A.33.P39212117 | 3.957 | 1831 | up | LOC10288819   | Homo sapiens cDNA FLJ27363, fls. clone U8A02185, [AK130873]   |
| A.22.P00000677 | 3.957 | 1831 | up | lnc-ADA-1     | 601109106F1_NIH_MGC_16_Homo sapiens cDNA clone IMAGE:3590138_5, mRNA sequence [BE244307]                                      |
| A.23.P18641    | 3.955 | 1830 | up | SNK25         | Homo sapiens sorting nexin 25 (SNK25), mRNA [NM.091953]   |
| A.33.P3920929  | 3.952 | 1829 | up | NCAPH         | Homo sapiens non-SMC condensin I complex, subunit H (NCAPH), transcript variant 1, mRNA [NM.019341]                           |
| A.21.P0009140  | 3.947 | 1826 | up | LOC10272392   | PREDICTED: Homo sapiens uncharacterized LOC10272392, [LOC10272392], ncRNA [XR_424400]   |
| A.21.P0014446  | 3.942 | 1825 | up | RHP           | Insulator interacting protein [Source:HGNC Symbol;Acc:HGNC14866] [ENS:TM000026579]  |
| A.23.P425073   | 3.941 | 1824 | up | RBM52         | Homo sapiens RNA binding motif, single stranded interacting protein 2 (RBM52), mRNA [NM.022898]                               |
| A.24.P529125   | 3.939 | 1823 | up | MBOAT7        | Homo sapiens membrane bound O-acyltransferase domain containing 7 (MBOAT7), transcript variant 4, mRNA [NM.00100922]          |
| A.24.P529125   | 3.938 | 1823 | up | UNCL1D        | Homo sapiens uncharacterized cDNA clone D (G. alpha) (UNCL1D), mRNA [NM.198242]   |
| A.33.P39268612 | 3.937 | 1822 | up | BNL1          | Homo sapiens basic helix-loop-helix protein 1 (BNL1), transcript variant 1, mRNA [NM.170743]                                  |
| A.23.P110712   | 3.936 | 1822 | up | DUSP1         | Homo sapiens dual specificity phosphatase 1 (DUSP1), mRNA [NM.004417]   |
| A.23.P294736   | 3.935 | 1822 | up | GPD1          | Homo sapiens glycerol-3-phosphate dehydrogenase 1 (soluble) (GPD1), transcript variant 1, mRNA [NM.005276]                    |
| A.23.P01896    | 3.934 | 1821 | up | STGAL1        | Homo sapiens ST19 beta-galactoside alpha-2,3-sialyltransferase 1 (STGAL1), transcript variant 1, mRNA [NM.003033]             |
| A.21.P0009216  | 3.933 | 1821 | up | lnc-PPAS-1    | LINCpedia lincRNA (lnc-PPAS-1), lincRNA [lnc-PPAS-1]  |
| A.23.P146057   | 3.931 | 1820 | up | ZDHHC9        | Homo sapiens zinc finger, DHHC-type containing 9 (ZDHHC9), transcript variant 1, mRNA [NM.018032]                             |
| A.24.P396702   | 3.931 | 1820 | up | GD302         | Homo sapiens GD302 molecule (GD302), transcript variant 1, mRNA [NM.014880]   |
| A.22.P00008932 | 3.928 | 1819 | up | GFLAR         | Homo sapiens CASP8 and FADD-like apoptosis regulator (GFLAR), transcript variant 8, mRNA [NM.00120919]                        |
| A.33.P3921293  | 3.928 | 1819 | up | IGCAP3        | Homo sapiens IG motif containing GTPase activating protein 3 (IGCAP3), mRNA [NM.178229]                                       |
| A.24.P295010   | 3.927 | 1819 | up | SEPPIN9       | Homo sapiens serpin peptidase inhibitor, clone B (ovalbumin), member 9 (SEPPIN9), mRNA [NM.004155]                            |
| A.23.P240717   | 3.927 | 1818 | up | C1orf454      | Homo sapiens chromosome 10 open reading frame 54 (C1orf454), mRNA [NM.029153]   |
| A.23.P215490   | 3.924 | 1817 | up | PODNL         | Homo sapiens podocyanin like (PODNL), transcript variant 1, mRNA [NM.00101511]  |
| A.22.P00008873 | 3.920 | 1815 | up | TP333         | Homo sapiens tumor protein p53 inducible protein 3 (TP333), transcript variant 1, mRNA [NM.004861]                            |
| A.22.P00021070 | 3.919 | 1815 | up | lnc-MKL1-2    | BGC04583_AGBD33 protein, Homo sapiens (eye-1, wip-9, ep-0), partial (7%), [THCG2682346]                                       |
| A.33.P3935671  | 3.919 | 1815 | up | TMEM33A       | Homo sapiens transmembrane protein 63A (TMEM33A), mRNA [NM.014689]  |
| A.22.P00019468 | 3.918 | 1815 | up | lnc-MEM3A     | epidermal growth factor receptor pathway substrate 15 pseudogene 1 [Source:HGNC Symbol;Acc:HGNC.18166] [ENS:TM000045989]      |
| A.23.P2004689  | 3.914 | 1813 | up | TMEM33A       | Homo sapiens transmembrane protein 63A (TMEM33A), mRNA [NM.014689]  |
| A.33.P39591610 | 3.912 | 1812 | up | TM6SF1        | Homo sapiens transmembrane 6 a protein family member 1 (TM6SF1), transcript variant 1, mRNA [NM.020003]                       |
| A.33.P3910784  | 3.912 | 1812 | up | TRIM18L       | Homo sapiens tripartite motif containing 18 like (TRIM18L), mRNA [NM.001037300]   |
| A.23.P129403   | 3.910 | 1811 | up | PTGS2         | Homo sapiens prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase) (PTGS2), mRNA [NM.008963]  |
| A.24.P250992   | 3.905 | 1809 | up | PTGS2         | Homo sapiens prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase) (PTGS2), mRNA [NM.008963]  |
| A.33.P3926188  | 3.904 | 1809 | up | SH3BP2        | SH3 domain containing 2 [Source:HGNC Symbol;Acc:HGNC.24593] [ENS:TM000403904]   |
| A.23.P17128    | 3.903 | 1808 | up | SH3BP2        | SH3 domain containing 2 [Source:HGNC Symbol;Acc:HGNC.24593] [ENS:TM000403904]   |
| A.23.P168467   | 3.899 | 1807 | up | C1orf62       | Homo sapiens protein tyrosine kinase protein tyrosine phosphatase 15 (C1orf62), mRNA [NM.201280]                              |
| A.32.P214178   | 3.496 | 1806 | up | LINC00319     | Homo sapiens long intergenic non-protein coding RNA 319 (LINC00319), long non-coding RNA [NR.028960]                          |
| A.24.P160001   | 3.494 | 1805 | up | KIF6P1A       | Homo sapiens KIF608 binding protein 1A, 12kb (KIF6P1A), transcript variant 2, mRNA [NM.054014]                                |
| A.22.P00012219 | 3.494 | 1805 | up | lnc-PPP2R2A-1 | LINCpedia lincRNA (lnc-PPP2R2A-1), lincRNA [lnc-PPP2R2A-1]  |
| A.33.P39262510 | 3.492 | 1804 | up | LIPK          | Homo sapiens lipase, family member K (LIPK), mRNA [NM.001080518]  |

|                |       |       |       |    |                |  |
|----------------|-------|-------|-------|----|----------------|--|
| A_21_P0005172  | 3.492 | 1.604 | 3.492 | up | LINC00472      | Homo sapiens long intergenic non-protein coding RNA 472 [LINC00472], transcript variant 1, long non-coding RNA [NR_121612]       |
| A_24_P410017   | 3.491 | 1.603 | 3.491 | up | POT1E          | Homo sapiens POT1E antibody domain family member 1 [POT1E], mRNA [NM_00127406]   |
| A_21_P001250   | 3.489 | 1.603 | 3.489 | up | FLJ22447       | Homo sapiens uncharacterized LOC400221 [FLJ22447], long non-coding RNA [NR_039895]   |
| A_22_P00018341 | 3.486 | 1.602 | 3.486 | up | ZRANB1         | Homo sapiens zinc finger, RAN-binding domain containing 1 [ZRANB1], mRNA [NM_017560]   |
| A_22_P00022680 | 3.482 | 1.600 | 3.482 | up | STAR13-AS      | Homo sapiens STAR13 antisense RNA [STAR13-AS], long non-coding RNA [NR_046693]   |
| A_23_P137865   | 3.481 | 1.600 | 3.481 | up | CHIE1          | Homo sapiens chitinase 2-like 1 [cartilage glycoprotein-39] [CHIE1], mRNA [NM_0012176]   |
| A_24_P363801   | 3.480 | 1.789 | 3.480 | up | ADAMTS17       | ADAM metalloproteinases with thrombospondin type 1 motif 17 [Source:HGNC Symbol;Acc:HGNC:17109] [ENS:00000378893]                |
| A_33_P3030826  | 3.480 | 1.789 | 3.480 | up | inc-ATP13A4-2  | inc-ATP13A4-2 [inc-ATP13A4-2], lincRNA [NC_021120]   |
| A_31_P3033264  | 3.479 | 1.789 | 3.479 | up | CY272          | Homo sapiens cytochrome b-like 2 [CY272], mRNA [NM_021120]   |
| A_21_P001250   | 3.478 | 1.788 | 3.478 | up | DEEB128        | Homo sapiens dectin-1B [DEEB128], mRNA [NM_086831]   |
| A_23_P102584   | 3.478 | 1.788 | 3.478 | up | inc-NXK-1      | LINCgadia lincRNA [inc-NXK-1], lincRNA [inc-NXK-1]   |
| A_21_P0011144  | 3.477 | 1.788 | 3.477 | up | inc-NXK-1      | LINCgadia lincRNA [inc-NXK-1], lincRNA [inc-NXK-1]   |
| A_21_P0012907  | 3.475 | 1.787 | 3.475 | up | XLOC12.012035  | BROAD Institute lincRNA XLOC12.012035, lincRNA [TCONS 12_0022387]  |
| A_22_P00010032 | 3.474 | 1.787 | 3.474 | up | COL4L2         | Homo sapiens chondrin (C-C motif) ligand 4-like 2 [COL4L2], transcript variant CCL4L2.2, mRNA [NM_001291470]                     |
| A_23_P207964   | 3.473 | 1.786 | 3.473 | up | HY1            | Homo sapiens hydroxyprolylase isomerase (defective), [HY1], transcript variant 1, mRNA [NM_031207]                               |
| A_23_P160382   | 3.473 | 1.786 | 3.473 | up | PREDICTED      | Homo sapiens uncharacterized LOC729040 [LOC729040], misc RNA [XR_241836]   |
| A_22_P0001606  | 3.472 | 1.786 | 3.472 | up | inc-ARHGAP28-4 | PREDICTED: lincRNA [inc-ARHGAP28-4], lincRNA [inc-ARHGAP28-4]  |
| A_19_P00320088 | 3.471 | 1.785 | 3.471 | up | PREDICTED      | Homo sapiens uncharacterized LOC10059976 [LOC10059976], misc RNA [XR_111249]   |
| A_21_P0013675  | 3.471 | 1.785 | 3.471 | up | OSER1-AS1      | Homo sapiens OSER1 antisense RNA 1 (head to head) [OSER1-AS1], transcript variant 1, long non-coding RNA [NR_036337]             |
| A_22_P00008887 | 3.468 | 1.784 | 3.468 | up | inc-EXOC2-8    | LINCgadia lincRNA [inc-EXOC2-8], lincRNA [inc-EXOC2-8]   |
| A_21_P0004748  | 3.467 | 1.784 | 3.467 | up | SMCO2          | Homo sapiens single-pass membrane protein with coiled-coil domains 2 [SMCO2], mRNA [NM_01146010]                                 |
| A_21_P0005151  | 3.463 | 1.782 | 3.463 | up | inc-CEBPB-1    | LINCgadia lincRNA [inc-CEBPB-1], lincRNA [inc-CEBPB-1]   |
| A_23_P389790   | 3.461 | 1.781 | 3.461 | up | RRBP8          | Homo sapiens ribonucleoprotein binding protein 8 [RRBP8], transcript variant 3, mRNA [NM_0232626]                                |
| A_23_P242059   | 3.457 | 1.789 | 3.457 | up | HMOX2          | Homo sapiens hemo oxygenase (deoxy)ase 2 [HMOX2], transcript variant 3, mRNA [NM_002134]   |
| A_21_P0006071  | 3.455 | 1.789 | 3.455 | up | AT19A2         | Homo sapiens ATPase, aminophospholipid transporter, class 1, type 8A, member 2 [AT19A2], mRNA [NM_016529]                        |
| A_33_P3261175  | 3.451 | 1.787 | 3.451 | up | CPEB4          | Homo sapiens cytoplasmic polyadenylation element binding protein 4 [CPEB4], mRNA [NM_030627]                                     |
| A_21_P0005618  | 3.450 | 1.787 | 3.450 | up | inc-ID2-1      | LINCgadia lincRNA [inc-ID2-1], lincRNA [inc-ID2-1]   |
| A_23_P100501   | 3.450 | 1.787 | 3.450 | up | DEFND3         | Homo sapiens DENN1/MADD domain containing 3 [DEFND3], mRNA [NM_014957]   |
| A_33_P286864   | 3.449 | 1.786 | 3.449 | up | ASPH           | microtubule-associated protein 1 light chain 3 beta pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:49783] [ENS:0000048392]            |
| A_24_P251837   | 3.448 | 1.786 | 3.448 | up | inc-TG9-1      | Homo sapiens aspartate beta-hydroxylase [ASPH], transcript variant 3, mRNA [NM_032486]   |
| A_21_P0009571  | 3.445 | 1.784 | 3.445 | up | inc-TG9-1      | LINCgadia lincRNA [inc-TG9-1], lincRNA [inc-TG9-1]   |
| A_33_P321136   | 3.441 | 1.783 | 3.441 | up | PSL1           | Homo sapiens psalmodin 1 [PSL1], mRNA [NM_016706]  |
| A_21_P0013717  | 3.440 | 1.783 | 3.440 | up | CHD4           | Homo sapiens chromatin remodeler [CHD4], mRNA [NM_018397]  |
| A_24_P18105    | 3.439 | 1.782 | 3.439 | up | MEF2           | Homo sapiens myoblast determination factor 2 [MEF2], transcript variant 1, mRNA [NM_130162]                                      |
| A_22_P0015419  | 3.438 | 1.782 | 3.438 | up | TOBI           | Homo sapiens metallothionein 1E [MT1E], mRNA [NM_176817]   |
| A_21_P0033584  | 3.438 | 1.782 | 3.438 | up | AXL            | Homo sapiens transmembrane E-erbB2, 1 [TOBI], transcript variant 1, mRNA [NM_005249]   |
| A_23_P231426   | 3.437 | 1.781 | 3.437 | up | LOC101982935   | Homo sapiens AXL receptor tyrosine kinase [AXL], transcript variant 1, mRNA [NM_021913]  |
| A_23_P262243   | 3.435 | 1.780 | 3.435 | up | LOC101982935   | 17005518613184 GRM EB Home sapiens dNA 5', mRNA sequences [CN297986]   |
| A_23_P501372   | 3.434 | 1.780 | 3.434 | up | TRIM2          | Homo sapiens uncharacterized LOC101982935 [LOC101982935], long non-coding RNA [NR_110729]  |
| A_21_P0000671  | 3.433 | 1.780 | 3.433 | up | GDA            | Homo sapiens tripartite motif containing 2 [TRIM2], transcript variant 1, mRNA [NM_019271]                                       |
| A_23_P16479    | 3.433 | 1.780 | 3.433 | up | inc-AUH-4      | Homo sapiens guanine deaminase [GDA], transcript variant 2, mRNA [NM_004293]   |
| A_23_P003889   | 3.433 | 1.779 | 3.433 | up | inc-AUH-4      | LINCgadia lincRNA [inc-AUH-4], lincRNA [inc-AUH-4]   |
| A_22_P00024684 | 3.432 | 1.779 | 3.432 | up | inc-SLC25A47-3 | LINCgadia lincRNA [inc-SLC25A47-3], lincRNA [inc-SLC25A47-3]   |
| A_22_P00015615 | 3.432 | 1.778 | 3.432 | up | CHAC1          | Homo sapiens Chac1 glutathione-specific gamma glutamylcysteinyltransferase 1 [CHAC1], transcript variant 1, mRNA [NM_024111]     |
| A_24_P28809    | 3.430 | 1.778 | 3.430 | up | inc-BTBD19-1   | LINCgadia lincRNA [inc-BTBD19-1], lincRNA [inc-BTBD19-1]   |
| A_24_P393571   | 3.427 | 1.777 | 3.427 | up | LOC10121223    | Homo sapiens Tudor domain containing 12 [TUD12], mRNA [NM_08110829]  |
| A_21_P0006292  | 3.426 | 1.776 | 3.426 | up | XLOC12.012223  | BROAD Institute lincRNA XLOC12.012223, lincRNA [TCONS 12_0023260]  |
| A_22_P00014709 | 3.425 | 1.776 | 3.425 | up | HLA-DPB1       | Homo sapiens major histocompatibility complex class II, DP beta 1 [HLA-DPB1], mRNA [NM_002121]                                   |
| A_33_P325591   | 3.425 | 1.776 | 3.425 | up | GOLGA8P        | Homo sapiens golgi A8 family, member 8, pseudogene [GOLGA8P], non-coding RNA [NR_033380]   |
| A_33_P3976965  | 3.421 | 1.775 | 3.421 | up | ANKRD1B        | Homo sapiens ankyrin repeat and death domain containing 1B [ANKRD1B], mRNA [NM_02127613]   |
| A_22_P0005279  | 3.421 | 1.775 | 3.421 | up | KLK12          | Homo sapiens kallikrein-related peptidase 12 [KLK12], transcript variant 2, mRNA [NM_145884]                                     |
| A_23_P46152    | 3.419 | 1.774 | 3.419 | up | Ctverf16       | Homo sapiens chromosome 1 open reading frame 116 [Ctverf16], transcript variant 1, mRNA [NM_023838]                              |
| A_19_P00602168 | 3.419 | 1.773 | 3.419 | up | MT1M           | Homo sapiens metallothionein 1M [MT1M], mRNA [NM_178870]   |
| A_24_P168443   | 3.418 | 1.773 | 3.418 | up | POOLCE-AS1     | Homo sapiens POOLCE antisense RNA 1 [POOLCE-AS1], long non-coding RNA [NR_038910]  |
| A_33_P3262833  | 3.418 | 1.773 | 3.418 | up | inc-SIC22A3-4  | Homo sapiens solute carrier family 22, member 23 [SLC22A3], transcript variant 2, mRNA [NM_021945]                               |
| A_33_P371381   | 3.417 | 1.773 | 3.417 | up | inc-SIC22A3-4  | LINCgadia lincRNA [inc-SIC22A3-4], lincRNA [inc-SIC22A3-4]   |
| A_23_P500010   | 3.417 | 1.773 | 3.417 | up | CCDC64B        | Homo sapiens coiled-coil domain containing 64B [CCDC64B], mRNA [NM_001031795]  |
| A_23_P987      | 3.416 | 1.772 | 3.416 | up | TA GAP         | glutathione S-transferase omega 3, pseudogene [Source:HGNC Symbol;Acc:HGNC:24065]  |
| A_23_P36241    | 3.414 | 1.771 | 3.414 | up | CYP21A2        | Homo sapiens CYP21A2 cytochrome P450, family 21, subfamily A, polypeptide 2 [CYP21A2], transcript variant 2, mRNA [NM_001128690] |
| A_22_P00009227 | 3.412 | 1.771 | 3.412 | up | SM224          | Homo sapiens small integral membrane protein 24 [SM224], mRNA [NM_001136603]   |
| A_24_P350228   | 3.412 | 1.771 | 3.412 | up | inc-C10TNF2-2  | LINCgadia lincRNA [inc-C10TNF2-2], lincRNA [inc-C10TNF2-2]   |
| A_21_P0001142  | 3.411 | 1.770 | 3.411 | up | PAOSIN2        | Homo sapiens protein kinase C and casein kinase substrate in neurons 2 [PAOSIN2], transcript variant 1, mRNA [NM_001184970]      |
| A_33_P333590   | 3.411 | 1.770 | 3.411 | up |                |  |
| A_21_P0012386  | 3.411 | 1.770 | 3.411 | up |                |  |
| A_24_P34724    | 3.410 | 1.770 | 3.410 | up |                |  |
| A_33_P3411279  | 3.409 | 1.769 | 3.409 | up |                |  |
| A_23_P387120   | 3.407 | 1.768 | 3.407 | up |                |  |
| A_22_P0002669  | 3.406 | 1.768 | 3.406 | up |                |  |
| A_33_P3614192  | 3.404 | 1.767 | 3.404 | up |                |  |

|                |       |       |       |               |    |  |
|----------------|-------|-------|-------|---------------|----|--|
| A_30_P0406897  | 3.403 | 1.767 | 3.403 | PLEKHM1       | up | Homo sapiens pleckstrin homology domain containing, family M (with RUN domain) member 1 (PLEKHM1), transcript variant 1, mRNA [NM_014788]                    |
| A_23_P26037    | 3.402 | 1.766 | 3.402 | FRMD5         | up | Homo sapiens FEEM domain containing 5 (FRMD5), transcript variant 2, mRNA [NM_032892]  |
| A_33_P3252414  | 3.401 | 1.766 | 3.401 | TH            | up | Homo sapiens tyrosine hydroxylase (TH), transcript variant 1, mRNA [NM_199292]   |
| A_33_P3336242  | 3.398 | 1.765 | 3.398 | USP17L7       | up | Homo sapiens ubiquitin specific peptidase 17-like family member 7 (USP17L7), mRNA [NM_001268689]   |
| A_24_P107133   | 3.396 | 1.765 | 3.396 | CCO590        | up | Homo sapiens coiled-coil domain containing 50 (CCO590), transcript variant 2, mRNA [NM_178395]   |
| A_33_P3294314  | 3.396 | 1.764 | 3.396 |               | up |  |
| A_21_P0003889  | 3.396 | 1.764 | 3.396 | inc-TMEM64-1  | up | LOC100200713   |
| A_22_P0018730  | 3.395 | 1.764 | 3.395 | KIF2A3-1      | up | Homo sapiens kinesin associated protein 3-1 (KIF2A3-1), mRNA [NM_031958]   |
| A_23_P107184   | 3.395 | 1.764 | 3.395 | RIPK4         | up | Homo sapiens RIPK4, transcript variant 1, mRNA [NM_001000000]  |
| A_23_P3336242  | 3.392 | 1.762 | 3.392 | inc-MAF1-1    | up | LOC100200713   |
| A_22_P00262496 | 3.392 | 1.762 | 3.392 | inc-MAF1-1    | up | LOC100200713   |
| A_21_P0014572  | 3.389 | 1.761 | 3.389 | inc-CACNB3-1  | up | Homo sapiens calcium channel auxiliary subunit beta 3 (CACNB3-1), mRNA [NM_001000000]  |
| A_33_P3638245  | 3.389 | 1.761 | 3.389 | MYO8          | up | Homo sapiens myosin VI (MYO8), transcript variant 1, mRNA [NM_004698]  |
| A_23_P2695901  | 3.389 | 1.761 | 3.389 | TKTL1         | up | Homo sapiens transketolase-like 1 (TKTL1), transcript variant 1, mRNA [NM_012253]  |
| A_23_P40121    | 3.386 | 1.760 | 3.386 | KIAA1549L     | up | Homo sapiens KIAA1549-like (KIAA1549L), mRNA [NM_012194]   |
| A_22_P00102351 | 3.385 | 1.759 | 3.385 | inc-PRDM9-2   | up | Homo sapiens chromosome 9 protein 9 (PRDM9-2), transcript variant 2, mRNA [NM_0038935]   |
| A_33_P3636540  | 3.384 | 1.759 | 3.384 | SSSALMCT1     | up | Homo sapiens chondroitin sulfate N-acetylglucosaminyltransferase 1 (SSSALMCT1), transcript variant 1, mRNA [NM_001130518]                                    |
| A_23_P3744889  | 3.384 | 1.759 | 3.384 | GAOI          | up | Homo sapiens glutamate decarboxylase 1 (brain, 67kDa) (GAO1), transcript variant GA067, mRNA [NM_000817]   |
| A_33_P3936881  | 3.382 | 1.758 | 3.382 | LOC100100788  | up | Homo sapiens cDNA FL46857 fis, clone TEST14049582, AK128224  |
| A_19_P00321782 | 3.382 | 1.758 | 3.382 | LINC-PINT     | up | Homo sapiens long intergenic non-protein coding RNA, p53 induced transcript (LINC-PINT), transcript variant 4, long non-coding RNA [NR_109851]               |
| A_24_P265788   | 3.381 | 1.758 | 3.381 | EDSM1         | up | Homo sapiens ER degradation enhancer matricosidase alpha-like 1 (EDSM1), mRNA [NM_014674]  |
| A_23_P066590   | 3.380 | 1.757 | 3.380 | GPRASP1       | up | Homo sapiens G protein-coupled receptor associated sorting protein 1 (GPRASP1), transcript variant 1, mRNA [NM_001000000]                                    |
| A_21_P00025754 | 3.379 | 1.757 | 3.379 | inc-UTP29-1   | up | LOC100200713   |
| A_33_P32949153 | 3.379 | 1.757 | 3.379 | TINCR         | up | Homo sapiens tRNA (tyrosine) (TINCR), long non-coding RNA [NR_021064]  |
| A_33_P3387801  | 3.378 | 1.756 | 3.378 | KLKPI1        | up | Homo sapiens kallikrein associated protein 1 (KLKPI1), non-coding RNA [NR_022448]  |
| A_22_P00016711 | 3.377 | 1.756 | 3.377 | TRIM1-AS1     | up | Homo sapiens TRIM1 antisense RNA 1 (TRIM1-AS1), long non-coding RNA [NR_126470]  |
| A_33_P3392077  | 3.377 | 1.756 | 3.377 | TP333         | up | Homo sapiens tumor protein p53 inducible protein 3 (TP333), transcript variant 1, mRNA [NM_004881]   |
| A_23_P000353   | 3.376 | 1.755 | 3.376 | KCNK2         | up | Homo sapiens potassium channel, calcium activated intermediate/small conductance subfamily N alpha, member 2 (KCNK2), transcript variant 1, mRNA [NM_021814] |
| A_23_P09728    | 3.374 | 1.755 | 3.374 | MYL7          | up | Homo sapiens myosin, light chain 7, regulatory (MYL7), mRNA [NM_021232]  |
| A_21_P0000072  | 3.373 | 1.754 | 3.373 | inc-EIF2B5-2  | up | LINCpedia lincRNA (inc-EIF2B5-2), lincRNA [inc-EIF2B5-2]   |
| A_24_P11315    | 3.372 | 1.754 | 3.372 | OLFM3         | up | Homo sapiens olfactomedin-like 3 (OLFM3), transcript variant 1, mRNA [NM_00109180]   |
| A_21_P0012349  | 3.371 | 1.753 | 3.371 | ZDH98P1       | up | zinc finger, DHHC-type containing 8 pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:28461] [ENS:0000046279]  |
| A_23_P418413   | 3.370 | 1.753 | 3.370 | OXSRT1        | up | Homo sapiens oxidative stress responsive 1 (OXSRT1), mRNA [NM_005109]  |
| A_22_P0022683  | 3.369 | 1.752 | 3.369 | SH1C1         | up | Homo sapiens SH2 domain and tetraacetic acid repeats 1 (SH1C1), mRNA [NM_018868]   |
| A_23_P16493    | 3.369 | 1.752 | 3.369 | DNM3          | up | Homo sapiens interdigital adhesion molecule 3 (DNM3), mRNA [NM_002829]   |
| A_21_P0011456  | 3.367 | 1.752 | 3.367 | KRT44-7       | up | Homo sapiens keratin associated protein 4-7 (KRT44-7), transcript variant 7, mRNA [NM_033141]  |
| A_21_P043700   | 3.366 | 1.751 | 3.366 | CD220         | up | Homo sapiens cell adhesion molecule 20 (CD220), mRNA [NM_001256]   |
| A_33_P371262   | 3.365 | 1.751 | 3.365 | GFAPE-AS1     | up | Homo sapiens GFAPE antisense RNA 1 (GFAPE-AS1), long non-coding RNA [NR_040030]  |
| A_33_P3304671  | 3.365 | 1.751 | 3.365 | KRTAP5-5      | up | Homo sapiens keratin associated protein 5-5 (KRTAP5-5), mRNA [NM_001001480]  |
| A_33_P3319880  | 3.365 | 1.750 | 3.365 | RNF165        | up | Homo sapiens ring finger protein 165 (RNF165), transcript variant 1, mRNA [NM_152470]  |
| A_22_P0002511  | 3.364 | 1.750 | 3.364 | inc-LONE-1    | up | Homo sapiens cDNA FL102466 fis, clone BRAGE2007327, [AK094988]   |
| A_33_P344826   | 3.363 | 1.750 | 3.363 | IL32          | up | Homo sapiens interleukin 32 (IL32), transcript variant 4, mRNA [NM_00102633]   |
| A_22_P00014762 | 3.359 | 1.748 | 3.359 | inc-SLC39F5-8 | up | LINCpedia lincRNA (inc-SLC39F5-8), lincRNA [inc-SLC39F5-8]   |
| A_23_P143190   | 3.356 | 1.748 | 3.356 | MYBL2         | up | Homo sapiens v-myb avian myeloblastosis viral oncogene homolog-like 2 (MYBL2), transcript variant 1, mRNA [NM_002486]  |
| A_23_P72157    | 3.356 | 1.748 | 3.356 | MFS07         | up | Homo sapiens major facilitator superfamily domain containing 7 (MFS07), transcript variant 2, mRNA [NM_032219]   |
| A_22_P0004088  | 3.357 | 1.747 | 3.357 | USP38         | up | Homo sapiens ubiquitin specific peptidase 38 (USP38), transcript variant 3, mRNA [NM_001280298]  |
| A_33_P3278509  | 3.356 | 1.747 | 3.356 | DEFB103A      | up | Homo sapiens defensin beta 103A (DEFB103A), mRNA [NM_001081551]  |
| A_33_P3331381  | 3.356 | 1.747 | 3.356 | DEFB103B      | up | Homo sapiens defensin beta 103B (DEFB103B), mRNA [NM_001081551]  |
| A_33_P3350815  | 3.356 | 1.747 | 3.356 | DEFB103C      | up | Homo sapiens defensin beta 103C (DEFB103C), mRNA [NM_001081551]  |
| A_22_P4215346  | 3.354 | 1.746 | 3.354 | ADAMTS14      | up | Homo sapiens ADAMTS-like 4 (ADAMTS14), transcript variant 2, mRNA [NM_026008]  |
| A_33_P3202220  | 3.353 | 1.746 | 3.353 | inc-FAM188B-1 | up | LINCpedia lincRNA (inc-FAM188B-1), lincRNA [inc-FAM188B-1]   |
| A_21_P0002104  | 3.353 | 1.745 | 3.353 | PIEZO1        | up | Homo sapiens piezo-type mechanosensitive ion channel component 1 (PIEZO1), mRNA [NM_001142884]   |
| A_23_P140738   | 3.352 | 1.745 | 3.352 |               | up |  |
| A_21_P0011020  | 3.352 | 1.745 | 3.352 | BROAD         | up | BROAD Institute lincRNA XLOC12002780, lincRNA [XLOC12002780]   |
| A_22_P00008805 | 3.350 | 1.744 | 3.350 | STAR13-AS     | up | Homo sapiens STAR13 antisense RNA (STAR13-AS), long non-coding RNA [NR_046863]   |
| A_22_P00015757 | 3.349 | 1.744 | 3.349 | inc-TAF4B-4   | up | Homo sapiens chromosome 7 homeobox domain containing 4 (NIPAL3), mRNA [NM_020448]  |
| A_22_P00009253 | 3.349 | 1.744 | 3.349 | NIPAL3        | up | 6015020701, NIH MGC-7 Home sapiens cDNA clone IMAGE3844616, 5', mRNA sequence [BF794467]   |
| A_23_P486054   | 3.346 | 1.743 | 3.346 | TROAP         | up | Homo sapiens NIPA-like domain containing 3 (NIPAL3), mRNA [NM_020448]  |
| A_23_P189914   | 3.346 | 1.743 | 3.346 | TROAP         | up | Homo sapiens trophin associated protein (TROAP), transcript variant 1, mRNA [NM_005480]  |
| A_24_P386622   | 3.343 | 1.741 | 3.343 | ARRB1         | up | Homo sapiens arrestin, beta 1 (ARRB1), transcript variant 1, mRNA [NM_004041]  |
| A_23_P27005    | 3.343 | 1.741 | 3.343 | DHRS11        | up | Homo sapiens dehydratase/reductase (SDR family) member 11 (DHRS11), mRNA [NM_024308]   |
| A_23_P89601    | 3.339 | 1.739 | 3.339 | KIF29         | up | Homo sapiens keratin 32, type I (KIF29), mRNA [NM_002278]  |
| A_33_P3246505  | 3.336 | 1.738 | 3.336 | MAP3K8        | up | mitogen-activated protein kinase kinase kinase 8 [Source:HGNC Symbol;Acc:HGNC:6886] [ENS:0000033522]   |
| A_31_P0003624  | 3.335 | 1.738 | 3.335 | inc-RNF118B-1 | up | LINCpedia lincRNA (inc-RNF118B-1), lincRNA [inc-RNF118B-1]   |
| A_33_P326760   | 3.335 | 1.738 | 3.335 | CU1B2         | up | Homo sapiens CU1B2, transcript variant 3, mRNA [NM_001282011]  |
| A_33_P364803   | 3.334 | 1.737 | 3.334 | PRM2          | up | Homo sapiens polycomb target 2 (CU1B2), transcript variant 3, mRNA [NM_001282011]  |
| A_24_P13254    | 3.334 | 1.737 | 3.334 | DCBLD2        | up | Homo sapiens disintegrin, CLB and LCCII domain containing 2 (DCBLD2), mRNA [NM_088927]   |
| A_22_P00002108 | 3.331 | 1.736 | 3.331 |               | up |  |
| A_22_P0001764  | 3.329 | 1.735 | 3.329 | QBIV4         | up | QBIV4 HUMAN (QBIV4), TPTEN1 protein (Fragnoni), partial (27), [HG273232]   |
| A_33_P398973   | 3.329 | 1.735 | 3.329 | TFPRA1        | up | Homo sapiens transmembrane protein, adipocyte associated 1 (TFPRA1), transcript variant 1, mRNA [NM_001136053]   |



|                |       |       |       |                                 |    |   |
|----------------|-------|-------|-------|---------------------------------|----|---|
| A.24.P248424   | 3.329 | 1.735 | 3.328 | SLMO2                           | up | Homo sapiens slowpoke homolog 2 (Orsophila) (SLMO2), transcript variant 1, mRNA [NM.016045]                                       |
| A.23.P267899   | 3.327 | 1.734 | 3.327 | EPOR                            | up | Homo sapiens erythropoietin receptor (EPOR), transcript variant 1, mRNA [NM.000121]   |
| A.23.P210425   | 3.326 | 1.734 | 3.326 | MYL9                            | up | Homo sapiens myosin light chain 9, regulatory (MYL9), transcript variant 2, mRNA [NM.181926]                                      |
| A.33.P3381177  | 3.325 | 1.733 | 3.325 | LOC100126863                    | up | Homo sapiens cDNA FLJ26804.161 clone PNC09833 [AK128546]  |
| A.21.P0011975  | 3.325 | 1.733 | 3.325 | ARM4C4                          | up | armadillo repeat containing, X-linked 4 [Source:HGNC Symbol;Acc:HGNC:28615] [ENST00000431677]                                     |
| A.33.P3937697  | 3.324 | 1.733 | 3.324 | CHAC1                           | up | Homo sapiens CHC glutathione-specific gamma-glutamylcysteine transferase 1 (CHAC1), transcript variant 1, mRNA [NM.024111]        |
| A.21.P0006443  | 3.324 | 1.733 | 3.324 |                                 | up | long intergenic non-protein coding RNA 1459 [Source:HGNC Symbol;Acc:HGNC:50846] [ENS00000453062]                                  |
| A.23.P111978   | 3.324 | 1.733 | 3.324 | KCNK9                           | up | Homo sapiens potassium channel, two pore domain subfamily K, member 9 (KCNK9), transcript variant 1, mRNA [NM.001244800]          |
| A.33.P256273   | 3.323 | 1.733 | 3.323 | SYT14B43                        | up | Homo sapiens SYT14B43, readthrough (SYT14B43), mRNA [NM.001244800]  |
| A.19.P00316846 | 3.323 | 1.732 | 3.323 | inc-ARL1C2-4                    | up | Homo sapiens lincRNA cDNA DMEZ2680D15181 (from clone DMEZ2680D15181) [CFI24930.1]   |
| A.33.P3995321  | 3.321 | 1.732 | 3.321 | HNI                             | up | Homo sapiens hematological and neurological expressed 1 (HNI), transcript variant 2, mRNA [NM.001002032]                          |
| A.33.P2696366  | 3.321 | 1.732 | 3.321 | SSSN                            | up | Homo sapiens susacasin (SSSN), transcript variant 1, mRNA [NM.001166394]  |
| A.23.P281108   | 3.320 | 1.731 | 3.320 | ALDOC                           | up | Homo sapiens aldolase C, fructose-bisphosphate (ALDOC), mRNA [NM.005165]  |
| A.33.P231817   | 3.319 | 1.731 | 3.319 | TMA5F1                          | up | Homo sapiens transmembrane 4 L, six family member 1 (TMA5F1), mRNA [NM.0104220]   |
| A.33.P272264   | 3.319 | 1.731 | 3.319 | GID4                            | up | GID complex subunit 4 [Source:HGNC Symbol;Acc:HGNC:28453] [ENST00000376345]   |
| A.33.P269728   | 3.315 | 1.729 | 3.315 | ANKRD10                         | up | Homo sapiens ankyrin repeat domain 10 (ANKRD10), transcript variant 2, mRNA [NM.001286721]  |
| A.24.P16621    | 3.315 | 1.729 | 3.315 | SLC6A10P                        | up | Homo sapiens solute carrier family 6 (neurotransmitter transporter), member 10, pseudogene (SLC6A10P), non-coding RNA [NR_003083] |
| A.33.P302165   | 3.314 | 1.729 | 3.314 | ABHD8                           | up | Homo sapiens abhydrolase domain containing 8 (ABHD8), mRNA [NM.024527]  |
| A.23.P144020   | 3.314 | 1.729 | 3.314 | CNTN4                           | up | Homo sapiens contactin 4 (CNTN4), transcript variant 3, mRNA [NM.175613]  |
| A.21.P0006978  | 3.313 | 1.728 | 3.313 | GSTO1                           | up | Homo sapiens glutathione S-transferase omega 1 (GSTO1), transcript variant 1, mRNA [NM.004632]                                    |
| A.24.P304051   | 3.313 | 1.728 | 3.313 | ZNF69                           | up | Homo sapiens zinc finger protein 69 (ZNF69), transcript variant 1, mRNA [NM.207494]   |
| A.33.P336984   | 3.312 | 1.728 | 3.312 | LOC100138                       | up | Homo sapiens cDNA FLJ26804.161 clone PNC09833 [AK128546]  |
| A.33.P303056   | 3.308 | 1.726 | 3.308 | LOC101260319                    | up | Homo sapiens long intergenic non-protein coding RNA 1268 (LINC01268), long non-coding RNA [NR_100968]                             |
| A.21.P0003303  | 3.304 | 1.724 | 3.304 | LINC01268                       | up | Homo sapiens long intergenic non-protein coding RNA 1268 (LINC01268), long non-coding RNA [NR_100968]                             |
| A.33.P272291   | 3.303 | 1.724 | 3.303 | AKR1C4                          | up | Homo sapiens aldo-keto reductase family 1, member C4 (AKR1C4), mRNA [NM.001818]   |
| A.23.P51085    | 3.302 | 1.723 | 3.302 | SP225                           | up | Homo sapiens SP225, NDC80 histone core component (SP225), mRNA [NM.020675]  |
| A.33.P394727   | 3.301 | 1.723 | 3.301 | KHDRBS3                         | up | Homo sapiens KH domain containing, RNA binding, signal transduction associated 3 (KHDRBS3), mRNA [NM.008559]                      |
| A.33.P2381866  | 3.300 | 1.722 | 3.300 | C8orf49                         | up | Homo sapiens chromosome 8 open reading frame 49 (C8orf49), long non-coding RNA [NR_023552]  |
| A.33.P2410201  | 3.298 | 1.722 | 3.298 | SYT14                           | up | Homo sapiens synaptotagmin XIV (SYT14), transcript variant 4, mRNA [NM.152982]  |
| A.24.P402415   | 3.298 | 1.722 | 3.298 | inc-EN1-1                       | up | LINC001564 (inc-EN1-1), lincRNA [inc-EN1-1]   |
| A.22.P00005750 | 3.298 | 1.722 | 3.298 | LINC01954                       | up | Homo sapiens long intergenic non-protein coding RNA 1954 (LINC01954), long non-coding RNA [NR_126938]                             |
| A.32.P128209   | 3.296 | 1.721 | 3.296 | RALGPS2                         | up | Rai GEF with PH domain and SH3 binding motif 2 [Source:HGNC Symbol;Acc:HGNC:30279] [ENS00000495054]                               |
| A.33.P3291988  | 3.294 | 1.720 | 3.294 | CLU8                            | up | Homo sapiens cereoid-lipofuscinosis, neuronal 8 (lelepsy, progressive with mental retardation) (CLU8), mRNA [NM.018941]           |
| A.23.P407206   | 3.293 | 1.719 | 3.293 | MBD1                            | up | Homo sapiens methyl-CpG binding domain protein 1 (MBD1), transcript variant 13, mRNA [NM.001204151]                               |
| A.33.P398927   | 3.292 | 1.719 | 3.292 | inc-GNS-3                       | up | LINC001303 (inc-GNS-3), lincRNA [inc-GNS-3]   |
| A.21.P0003858  | 3.291 | 1.718 | 3.291 | TUFT1                           | up | Homo sapiens tuftelin 1 (TUFT1), transcript variant 1, mRNA [NM.020127]   |
| A.33.P3241119  | 3.291 | 1.718 | 3.291 | LOC100126863                    | up | Homo sapiens cDNA FLJ26804.161 clone PNC09833 [AK128546]  |
| A.21.P0010598  | 3.290 | 1.718 | 3.290 | annoyedlike autocrine sensitive | up | [Source:HGNC Symbol;Acc:HGNC:7900] [ENST00000282751]  |
| A.23.P85640    | 3.290 | 1.718 | 3.290 | INP5B                           | up | Homo sapiens inositol polyphosphate-5-phosphatase, 75kDa (INP5B), transcript variant 1, mRNA [NM.005540]                          |
| A.22.P00024636 | 3.289 | 1.718 | 3.289 | inc-CSRP1-1                     | up | EX02012 Soares, N.L., T.GBC S1 Homo sapiens cDNA clone IMAGp88820975: IMA.GE.2328115, mRNA sequence [BX029202]                    |
| A.33.P325701   | 3.288 | 1.717 | 3.288 | FLJ46838                        | up | PREDICTED: Homo sapiens FLJ46838 protein (FLJ46838), misc RNA [XR_108962]   |
| A.21.P0012115  | 3.288 | 1.717 | 3.288 | LOC100866995                    | up | PREDICTED: Homo sapiens uncharacterized LOC100866995 (LOC100866995), transcript variant X3, mRNA [XR_248917]                      |
| A.33.P324466   | 3.288 | 1.717 | 3.288 | ANKRD12                         | up | Homo sapiens ankyrin repeat domain 12 (ANKRD12), transcript variant 3, mRNA [NM.001204556]  |
| A.22.P0010314  | 3.287 | 1.717 | 3.287 | inc-MUC20-3                     | up | Homo sapiens cDNA FLJ45707.161 clone FERR12001482 [AK127699]  |
| A.33.P326268   | 3.285 | 1.716 | 3.285 | HR                              | up | Homo sapiens hair growth associated (HR), transcript variant 1, mRNA [NM.005144]  |
| A.19.P00316461 | 3.285 | 1.716 | 3.285 | LOC101927137                    | up | Homo sapiens cDNA FLJ26804.161 clone PNC09833 [AK128546]  |
| A.33.P3400978  | 3.284 | 1.715 | 3.284 | LINC000376                      | up | Homo sapiens long intergenic non-protein coding RNA 376 (LINC00376), long non-coding RNA [NR_126408]                              |
| A.23.P44842    | 3.282 | 1.714 | 3.282 | CCDC15                          | up | Homo sapiens coiled-coil domain containing 15 (CCDC15), mRNA [NM.028004]  |
| A.21.P0008178  | 3.281 | 1.714 | 3.281 | inc-PODHE-3                     | up | LINC001303 (inc-PODHE-3), lincRNA [inc-PODHE-3]   |
| A.23.P281270   | 3.281 | 1.714 | 3.281 | SIK2                            | up | Homo sapiens SIX homeobox 2 (SIK2), mRNA [NM.016932]  |
| A.24.P204244   | 3.279 | 1.713 | 3.279 | ANXA2P1                         | up | Homo sapiens annexin A2 pseudogene 1 (ANXA2P1), non-coding RNA [NR.001592]  |
| A.23.P292647   | 3.279 | 1.713 | 3.279 | EHD1                            | up | Homo sapiens EH-domain containing 1 (EHD1), transcript variant 2, mRNA [NM.006795]  |
| A.33.P273173   | 3.275 | 1.712 | 3.275 | USP11                           | up | Homo sapiens ubiquitin specific peptidase 11 (USP11), mRNA [NM.004651]  |
| A.23.P45976    | 3.274 | 1.711 | 3.274 | RAPI1GAP                        | up | Homo sapiens RAPI1 GTPase activating protein (RAPI1GAP), transcript variant 3, mRNA [NM.020885]                                   |
| A.33.P324394   | 3.274 | 1.711 | 3.274 | ARR1GAP40                       | up | Homo sapiens RAGE GTPase activating protein 40 (ARR1GAP40), mRNA [NM.00116443]  |
| A.33.P3222549  | 3.274 | 1.711 | 3.274 | SYMPO2L                         | up | RST11875 Athysa RAGE Library Homo sapiens cDNA, mRNA sequence [BG182788]  |
| A.23.P3222549  | 3.274 | 1.711 | 3.274 | SYMPO2L                         | up | RST11875 Athysa RAGE Library Homo sapiens cDNA, mRNA sequence [BG182788]  |
| A.32.P77098    | 3.271 | 1.710 | 3.271 | TMEM200B                        | up | Homo sapiens transmembrane protein 200B (TMEM200B), transcript variant 2, mRNA [NM.001003682]                                     |
| A.33.P3381113  | 3.271 | 1.710 | 3.271 | TGDS3                           | up | Homo sapiens tiger transposable element derived 3 (TGDS3), mRNA [NM.148719]   |
| A.23.P151166   | 3.271 | 1.710 | 3.271 | inc-MITAF-3                     | up | Homo sapiens intergenic 32 (L32), transcript variant 1, mRNA [NM.00102631]  |
| A.22.P0010241  | 3.270 | 1.709 | 3.270 | CAR3BL                          | up | Homo sapiens calcium binding protein 38-like (CAR3BL), transcript variant 2, mRNA [NM.001073920]                                  |
| A.33.P321385   | 3.268 | 1.708 | 3.268 | IL1A                            | up | Homo sapiens interleukin 1 alpha (IL1A), mRNA [NM.000525]   |
| A.23.P210603   | 3.268 | 1.708 | 3.268 | ACT1B2                          | up | Homo sapiens actin, beta-like 2 (ACT1B2), mRNA [NM.001017992]   |
| A.24.P20836    | 3.266 | 1.708 | 3.266 | ZNF726                          | up | Homo sapiens zinc finger protein 726 (ZNF726), mRNA [NM.001244638]  |
| A.21.P0000112  | 3.266 | 1.707 | 3.266 | STX1A                           | up | Homo sapiens syntaxin 1A (brain) (STX1A), transcript variant 1, mRNA [NM.044603]  |
| A.23.P186556   | 3.265 | 1.707 | 3.265 | PLD5                            | up | Homo sapiens phospholipase D family, member 5 (PLD5), transcript variant 1, mRNA [NM.1526866]                                     |
| A.21.P0010918  | 3.264 | 1.707 | 3.264 | inc-AVEN-1                      | up | QBARE2 (FABI) (QBARE2)-ZF-HD homeobox protein (Fragment), partial (5%), TH2C2763885   |
| A.22.P00001869 | 3.263 | 1.706 | 3.263 |                                 | up |   |

|                |       |       |       |    |               |  |
|----------------|-------|-------|-------|----|---------------|--|
| A.22.P00010017 | 3.262 | 1.706 | 3.262 | up | NEEDAL        | Homo sapiens neural precursor cell expressed, developmentally down-regulated 4-like, E3 ubiquitin protein ligase (NEEDAL), transcript variant 1, mRNA [NM_001144987] |
| A.33.P3931005  | 3.262 | 1.706 | 3.262 | up |               |  |
| A.33.P32500669 | 3.260 | 1.705 | 3.260 | up | ZPLD1         | Homo sapiens zona pellucida-like domain containing 1 (ZPLD1), mRNA [NM_175656]   |
| A.33.P33930066 | 3.260 | 1.705 | 3.260 | up | PSAPL1        | Homo sapiens psoriasis-like 1 (gene pseudogene) (PSAPL1), mRNA [NM_001085382]  |
| A.33.P3923069  | 3.259 | 1.704 | 3.259 | up | ZNF254        | Homo sapiens zinc finger protein 254 (ZNF254), transcript variant 8, mRNA [NM_001278665]   |
| A.33.P32500635 | 3.257 | 1.703 | 3.257 | up | IMP2L3        | Homo sapiens in vivo protein zero-like 3 (IMP2L3), transcript variant 1, mRNA [NM_198279]  |
| A.24.P20015602 | 3.256 | 1.703 | 3.256 | up | SBE2F-AS1     | Homo sapiens SBE2 antisense RNA 1 (SBE2F-AS1), long non-coding RNA [NC_008469]   |
| A.24.P84608    | 3.255 | 1.703 | 3.255 | up |               | [ENS:0000040517]   |
| A.33.P3415340  | 3.255 | 1.703 | 3.255 | up | ALS2          | Choroid intracellular channel 4 pseudogene 1 (Source:HGNC Symbol;Acc:HGNC:483) [ENS:0000040552]  |
| A.33.P3408124  | 3.254 | 1.702 | 3.254 | up | NR1D2         | Hydroxamate lyase subfamily 1, group D, member 2 (NR1D2), transcript variant 1, mRNA [NM_006128]   |
| A.21.P0002466  | 3.254 | 1.702 | 3.254 | up | lnc-LRRTM1-4  | lncRNA lnc-LRRTM1-4, lncRNA [lnc-LRRTM1-4]   |
| A.24.P238744   | 3.253 | 1.702 | 3.253 | up | POTEM         | Homo sapiens POT1E ankyrin domain family, member M (POTEM), mRNA [NM_001148442]  |
| A.23.P146312   | 3.253 | 1.702 | 3.253 | up | GOLM1         | Homo sapiens golgi membrane protein 1 (GOLM1), transcript variant 1, mRNA [NM_016648]  |
| A.23.P113193   | 3.251 | 1.701 | 3.251 | up | ZBED2         | Homo sapiens zinc finger, BED-type containing 2 (ZBED2), mRNA [NM_024508]  |
| A.32.P195358   | 3.250 | 1.700 | 3.250 | up | LOC388242     | Homo sapiens coiled-coil domain containing 101 pseudogene (LOC388242), non-coding RNA [NR_002558]  |
| A.23.P138883   | 3.250 | 1.700 | 3.250 | up | NMT2          | Homo sapiens N-methyltransferase 2 (NMT2), mRNA [NM_004808]  |
| A.24.P120147   | 3.248 | 1.699 | 3.248 | up | SH2           | Homo sapiens SH2 domain containing 6 (Source:HGNC Symbol;Acc:HGNC:30439) [ENS:00000481426]   |
| A.24.P8467     | 3.246 | 1.699 | 3.246 | up | DENN2C        | Homo sapiens DENN1/MAO1 domain containing 2C (DENN2C), transcript variant 2, mRNA [NM_198459]  |
| A.33.P3251347  | 3.244 | 1.698 | 3.244 | up | TAB3          | TGF-beta activated kinase 1/MAPK7 binding protein 3 (Source:HGNC Symbol;Acc:HGNC:30681) [ENS:00000378928]  |
| A.23.P102061   | 3.244 | 1.698 | 3.244 | up | LOC79160      | Homo sapiens uncharacterized LOC79160 (LOC79160), long non-coding RNA [NR_128593]  |
| A.23.P3403319  | 3.244 | 1.698 | 3.244 | up | EST1202       | EST1202, mRNA [ENS:00000378928]  |
| A.33.P204260   | 3.239 | 1.698 | 3.239 | up | SLC22A2       | Homo sapiens solute carrier family 22 (SLC22A2), member 2, mRNA [NM_001085430]   |
| A.21.P0013184  | 3.238 | 1.695 | 3.238 | up | XLOC12_013311 | BROAD Institute lincRNA XLOC12_013311, lincRNA [XLOC12_013311]   |
| A.33.P326181   | 3.237 | 1.695 | 3.237 | up | LIMS2         | Homo sapiens LIM and arnescent cell enginer-like domains 2 (LIMS2), transcript variant 5, mRNA [NM_001161404]  |
| A.33.P3385167  | 3.237 | 1.694 | 3.237 | up | NO51          | Homo sapiens nitric oxide synthase 1 (neuronal) (NO51), transcript variant 2, mRNA [NM_001204218]  |
| A.33.P3233069  | 3.236 | 1.694 | 3.236 | up | ARHGEF4       | Homo sapiens Rho guanine nucleotide exchange factor (GEF) 4 (ARHGEF4), transcript variant 1, mRNA [NM_015320]  |
| A.21.P0005257  | 3.236 | 1.694 | 3.236 | up |               | HESG2, F07 of A038 NH_MGC_288 Homo sapiens cDNA clone IMAGE7467039 5', mRNA sequence [CX163869]  |
| A.33.P3415345  | 3.236 | 1.694 | 3.236 | up | ALS2          | Homo sapiens amyotrophic lateral sclerosis 2 (juvenile) (ALS2), transcript variant 2, mRNA [NM_001135745]  |
| A.22.P00021581 | 3.235 | 1.694 | 3.235 | up |               | long intergenic non-protein coding RNA 393 [Source:HGNC Symbol;Acc:HGNC:42721] [ENS:00000443621]   |
| A.24.P86545    | 3.234 | 1.694 | 3.234 | up | KIAA0228      | Homo sapiens KIAA0228 (KIAA0228), transcript variant 1, mRNA [NM_001149442]  |
| A.23.P250274   | 3.234 | 1.693 | 3.234 | up | LRRRC8A       | Homo sapiens leucine rich repeat containing 8 family, member A (LRRRC8A), transcript variant 2, mRNA [NM_016954]   |
| A.33.P3240685  | 3.234 | 1.693 | 3.234 | up |               | granulysin activator 1A (ratia) [Source:HGNC Symbol;Acc:HGNC:4630] [ENS:00000384637]   |
| A.23.P340509   | 3.234 | 1.693 | 3.234 | up | DMBT1         | Homo sapiens dectin domain containing 1 (DMBT1), mRNA [NM_001085430]   |
| A.24.P125242   | 3.232 | 1.692 | 3.232 | up | CTCF67        | Homo sapiens interchromatin particle protein 17 (CTCF67), mRNA [NM_001085430]  |
| A.23.P119143   | 3.231 | 1.692 | 3.231 | up | ICAM5         | Homo sapiens intercellular adhesion molecule 5, heterophilin (ICAM5), mRNA [NM_003250]   |
| A.33.P3350258  | 3.229 | 1.691 | 3.229 | up | RASAL2        | Homo sapiens RAS protein activator like 2 (RASAL2), transcript variant 2, mRNA [NM_170692]   |
| A.33.P39397443 | 3.229 | 1.691 | 3.229 | up | PKMYT1        | Homo sapiens protein kinase, membrane associated tyrosine/threonine 1 (PKMYT1), transcript variant 2, mRNA [NM_182887]   |
| A.33.P3266419  | 3.229 | 1.691 | 3.229 | up | GLTP          | Homo sapiens glycolipid transfer protein (GLTP), mRNA [NM_016433]  |
| A.23.P104705   | 3.228 | 1.691 | 3.228 | up | SLC29A2       | Homo sapiens solute carrier family 29 (equilibrative nucleoside transporter), member 2 (SLC29A2), transcript variant 2, mRNA [NM_0011532]                            |
| A.33.P3340595  | 3.227 | 1.690 | 3.227 | up |               | G53Y5   HUMAN G53Y5(1) D-opsacthrome autolomerase, partial (28%) [H62970639]   |
| A.22.P00023216 | 3.227 | 1.690 | 3.227 | up | LINC00838     | Homo sapiens long intergenic non-protein coding RNA 838 (LINC00838), long non-coding RNA [NR_038632]   |
| A.22.P00011475 | 3.226 | 1.690 | 3.226 | up |               | Homo sapiens TEA domain family member 1 (SV40 transcriptional enhancer factor) (TEAD1), mRNA [NM_001018115]  |
| A.23.P8423     | 3.226 | 1.690 | 3.226 | up | JPH2          | Homo sapiens junctional protein 2 (JPH2), transcript variant 2, mRNA [NM_179193]   |
| A.23.P326283   | 3.225 | 1.689 | 3.225 | up | TEAD1         | Homo sapiens TEA domain family member 1 (SV40 transcriptional enhancer factor) (TEAD1), mRNA [NM_001018115]  |
| A.21.P0013181  | 3.225 | 1.689 | 3.225 | up | LOC100560098  | Homo sapiens uncharacterized LOC100560098 (LOC100560098), transcript variant X3, mRNA [NC_039746]  |
| A.21.P0011468  | 3.223 | 1.688 | 3.223 | up | XLOC12_005415 | BROAD Institute lincRNA XLOC12_005415, lincRNA [XLOC12_005415]   |
| A.23.P207188   | 3.222 | 1.688 | 3.222 | up | SGO2S8        | Homo sapiens suppressor of cytokine signaling 6 (SOCS6), mRNA [NM_004232]  |
| A.23.P41789    | 3.221 | 1.688 | 3.221 | up | SLC27A6       | Homo sapiens solute carrier family 27 (fatty acid transporter), member 6 (SLC27A6), transcript variant 2, mRNA [NM_001073727]  |
| A.33.P3348744  | 3.221 | 1.687 | 3.221 | up |               | Homo sapiens scavenger receptor class A, member 3 (SCARA3), transcript variant 2, mRNA [NM_182826]   |
| A.33.P3352019  | 3.220 | 1.687 | 3.220 | up | SCARA3        | Homo sapiens scavenger receptor class A, member 3 (SCARA3), transcript variant 2, mRNA [NM_182826]   |
| A.33.P3384662  | 3.220 | 1.687 | 3.220 | up | LINC01310     | Homo sapiens long intergenic non-protein coding RNA 1310 (LINC01310), long non-coding RNA [NR_038944]  |
| A.33.P342582   | 3.220 | 1.687 | 3.220 | up | SLC6A8        | Homo sapiens solute carrier family 6 (neurotransmitter transporter), member 8 (SLC6A8), transcript variant 1, mRNA [NM_005699]                                       |
| A.23.P134129   | 3.216 | 1.685 | 3.216 | up | EPH4L2        | Homo sapiens erythrocyte membrane protein band 4.1-like 2 (EPH4L2), transcript variant 1, mRNA [NM_001431]   |
| A.23.P143984   | 3.215 | 1.685 | 3.215 | up | FANCD2        | Homo sapiens Fanconi anemia, complementation group D2 (FANCD2), transcript variant 2, mRNA [NM_001018115]  |
| A.22.P0003157  | 3.212 | 1.684 | 3.212 | up | lnc-GOLGA8-3  | Homo sapiens long intergenic non-protein coding RNA 8 (GOLGA8), transcript variant 3, mRNA [NC_039746]   |
| A.22.P0000456  | 3.211 | 1.683 | 3.211 | up | lnc-MAGC1-1   | CG504451RSC05 (SBE2) 1.141, lincRNA [lncMAGC1-1] (18%) [H62700016]   |
| A.23.P425848   | 3.211 | 1.683 | 3.211 | up | COX6C         | Homo sapiens cytochrome oxidase subunit 6C (COX6C), transcript variant 4, mRNA [NM_000720]   |
| A.33.P3274332  | 3.211 | 1.683 | 3.211 | up | UBE2J1        | Homo sapiens ubiquitin-conjugating enzyme E2-J1 (UBE2J1), mRNA [NM_016021]   |
| A.21.P0000615  | 3.210 | 1.683 | 3.210 | up | LINC00184     | Homo sapiens long intergenic non-protein coding RNA 184 (LINC00184), long non-coding RNA [NR_033927]   |
| A.21.P0003793  | 3.210 | 1.683 | 3.210 | up | lnc-C4orf27-1 | LINCpedia lincRNA [lnc-C4orf27-1], lincRNA [lnc-C4orf27-1]   |





|                |       |       |    |   |
|----------------|-------|-------|----|---|
| A.33.P3282963  | 3.060 | 1.613 | up | QSVAK9 HUMAN (QSVAK9). Tight junction protein 2 (Zona occludens 2), complete [H22709782].   |
| A.33.P328903   | 3.059 | 1.613 | up | PREDICTED: Homo sapiens putative uncharacterized protein FLJ38889-like (LOC102724870), mRNA [XM_009711085]                                |
| A.33.P340806   | 3.058 | 1.612 | up | KRTAP9-1  |
| A.34.P341471   | 3.057 | 1.612 | up | SPC24   |
| A.22.P00012573 | 3.057 | 1.612 | up | LOC102724833-3; lincRNA [nc-PITPA43-3.2]  |
| A.23.P3310     | 3.056 | 1.611 | up | Homo sapiens MARCKS-like 1 (MARCKSL1), transcript variant 1, mRNA [NM_001303039]  |
| A.33.P3321692  | 3.055 | 1.611 | up | Proteinase and actin regulator 4 (SourceHGNC:SymbolAccHGNC:29789) [ENS1000049369]   |
| A.23.P192305   | 3.054 | 1.611 | up | Homo sapiens cadherin 11, type 2, OB-subfamily (cdeablated) (CDH11), mRNA [NM_001197177]  |
| A.23.P308885   | 3.052 | 1.610 | up | Homo sapiens protein phosphatase 1, regulatory subunit 21 (PPP1R21), transcript variant 2, mRNA [NM_169899]                               |
| A.23.P134566   | 3.048 | 1.608 | up | Homo sapiens olfactory receptor family 2, subfamily A, member 7 (OR2A-7), mRNA [NM_001005328]   |
| A.22.P00001517 | 3.048 | 1.608 | up | LINC RNA [nc-ARGAP23-1], lincRNA [nc-ARGAP23-1.1]   |
| A.33.P3331125  | 3.047 | 1.608 | up | Homo sapiens solute carrier family 2 (facilitated glucose transporter), member 12 (SLC2A12), mRNA [NM_145176]                             |
| A.21.P0014384  | 3.047 | 1.607 | up | Homo sapiens form-1 homolog B (G. elegans) (FEM1B), mRNA [NM_015922]  |
| A.23.P151970   | 3.047 | 1.607 | up | Homo sapiens serpin peptidase inhibitor, clone B (ovalbumin), member 8 (SERPINB8), transcript variant 3, mRNA [NM_001031848]              |
| A.24.P147461   | 3.046 | 1.607 | up | SEPPIN8   |
| A.33.P3348792  | 3.043 | 1.605 | up | Colicid-coll domain containing 888 [SourceHGNC:SymbolAccHGNC:28157] [ENS10000049488]  |
| A.21.P0000683  | 3.040 | 1.604 | up | Homo sapiens MyoD family inhibitor domain containing (MDIC), transcript variant 2, mRNA [NM_001166346]                                    |
| A.33.P3219005  | 3.040 | 1.604 | up | Homo sapiens FAM13A antisense RNA 1 (FAM13A-AS1), long non-coding RNA [NR_002026]   |
| A.33.P3305571  | 3.040 | 1.604 | up | Homo sapiens tumor necrosis factor receptor superfamily, member 6b, decoy (TNFRSF6b), mRNA [NM_008293]                                    |
| A.33.P3405444  | 3.039 | 1.604 | up | Homo sapiens Weickert-Albright syndrome-like (WASL), mRNA [NM_039341]   |
| A.22.P0025760  | 3.038 | 1.603 | up | Homo sapiens GADD45A  |
| A.23.P23221    | 3.035 | 1.602 | up | Homo sapiens growth arrest and DNA-damage-inducible, alpha (GADD45A), transcript variant 1, mRNA [NM_010113]                              |
| A.23.P207911   | 3.035 | 1.602 | up | Homo sapiens transient receptor potential cation channel, subfamily V, member 2 (TRPV2), mRNA [NM_0101924]                                |
| A.33.P3079565  | 3.035 | 1.602 | up | Homo sapiens long intergenic non-protein coding RNA 1432 (LINCO1432), long non-coding RNA [NR_038394]                                     |
| A.22.P00016431 | 3.034 | 1.601 | up | Homo sapiens MORFALZ antisense RNA 1 (MORFALZ-AS1), long non-coding RNA [NR_038978]   |
| A.33.P3215744  | 3.034 | 1.601 | up | Homo sapiens prostate androgen-regulated transcript 1 (non-protein coding) (PART1), transcript variant 2, long non-coding RNA [NR_028508] |
| A.22.P00005988 | 3.033 | 1.601 | up | PREDICTED: Homo sapiens uncharacterized LOC102723942 (LOC102723942), transcript variant X2, misc RNA [NR_428728]                          |
| A.24.P213763   | 3.033 | 1.601 | up | Homo sapiens cDNA clone IMAGE4341088, **** WARNING: chimeric clone **** [BC013799]  |
| A.23.P336152   | 3.032 | 1.600 | up | Homo sapiens mitogen-activated protein kinase 8 (MAPK8), transcript variant JNK1-32, mRNA [NM_001278547]                                  |
| A.33.P325824   | 3.032 | 1.600 | up | Homo sapiens notch 2 (NOTCH2), transcript variant 2, mRNA [NM_001200301]  |
| A.24.P131227   | 3.031 | 1.600 | up | Cell division cycle 23 [SourceHGNC:SymbolAccHGNC:1724] [ENS10000394694]   |
| A.23.P162985   | 3.028 | 1.599 | up | Homo sapiens solute carrier family 8 (neurotransmitter transporter), member 4 (SLC8A4), mRNA [NM_010454]                                  |
| A.33.P3218450  | 3.027 | 1.598 | up | Homo sapiens TEAP2A antisense RNA 1 (TEAP2A-AS1), long non-coding RNA [NR_033810]   |
| A.21.P0011882  | 3.026 | 1.597 | up | BROAD histone lincRNA XLOC12.006851   |
| A.23.P41452    | 3.026 | 1.597 | up | Homo sapiens cDNA, FLJ96764, highly similar to Homo sapiens sorting nexin 8 (SNX8), mRNA [AK315670]                                       |
| A.33.P343967   | 3.025 | 1.597 | up | Homo sapiens cDNA FLJ42892, fig. clone BRST008283 [AK124842]  |
| A.24.P38130    | 3.021 | 1.595 | up | Homo sapiens USP26 N-terminal, like (USP26N), transcript variant 1, mRNA [NM_014688]  |
| A.33.P3215493  | 3.021 | 1.595 | up | Homo sapiens vesicle-associated membrane protein 2 (syntaxin 2) (VAMP2), mRNA [NM_014232]   |
| A.24.P49516    | 3.021 | 1.595 | up | Homo sapiens polyoma virus receptor (PVR), transcript variant 1, mRNA [NM_008605]   |
| A.33.P3368685  | 3.019 | 1.594 | up | Homo sapiens heparin sulfate proteoglycan 1 (HSPG1), transcript variant 1, mRNA [NM_001169957]  |
| A.33.P3281741  | 3.018 | 1.594 | up | Homo sapiens RFX family member 8, lacking RFX DNA binding domain (RFX8), mRNA [NM_001145664]  |
| A.33.P3245072  | 3.017 | 1.592 | up | Homo sapiens signal-regulatory protein beta 1 (SIRPB1), transcript variant 3, mRNA [NM_001138444]   |
| A.21.P0015247  | 3.016 | 1.592 | up | Homo sapiens signal-regulatory protein beta 1 (SIRPB1), transcript variant 8, mRNA [NM_153261]  |
| A.23.P38229    | 3.013 | 1.591 | up | Homo sapiens hydroxyglucosaminidase 1 (HYAL1), transcript variant 1, mRNA [NM_153261]   |
| A.23.P120739   | 3.012 | 1.591 | up | Homo sapiens uncharacterized LOC102724833-2 (LOC102724833-2), mRNA [XM_009711084]   |
| A.33.P3416814  | 3.011 | 1.590 | up | Homo sapiens uncharacterized LOC102724833-1 (LOC102724833-1), mRNA [XM_009711084]   |
| A.33.P3346032  | 3.011 | 1.590 | up | Homo sapiens cDNA FLJ42892, fig. clone BRST008283 [AK124842]  |
| A.23.P38339    | 3.009 | 1.589 | up | Homo sapiens diacylglycerol kinase, beta (DAGLB), transcript variant 1, mRNA [NM_138178]  |
| A.33.P324936   | 3.009 | 1.589 | up | Homo sapiens chromosome 3 open reading frame 67 (C3orf67), mRNA [NM_188463]   |
| A.21.P0014697  | 3.006 | 1.589 | up | Homo sapiens uncharacterized LOC101000542 (LOC101000542), long non-coding RNA [NR_110764]   |
| A.33.P3250356  | 3.006 | 1.588 | up | Homo sapiens SH3 domain containing 21 (SH3D21), transcript variant 1, mRNA [NM_001162530]   |
| A.23.P201211   | 3.004 | 1.588 | up | Homo sapiens Fc receptor-like 5 (FCRL5), transcript variant 1, mRNA [NM_031281]   |
| A.22.P00009502 | 3.003 | 1.587 | up | EST12843, human nasopharynx Homo sapiens cDNA, mRNA sequence [CB986320]   |
| A.33.P3255404  | 3.003 | 1.586 | up | Homo sapiens claudin 11 (CLDN11), transcript variant 1, mRNA [NM_095622]  |
| A.33.P3252426  | 3.003 | 1.586 | up | Homo sapiens cytokine receptor-like factor 1 (CRFL1), mRNA [NM_004750]  |
| A.24.P289260   | 2.999 | 1.585 | up | Homo sapiens dishevelled-binding antagonist of beta-catenin 2 (DAB2), transcript variant 1, mRNA [NM_214482]                              |
| A.33.P3215575  | 2.998 | 1.584 | up | Homo sapiens ribo guanine nucleotide exchange factor (GEF) 10-like (ARHGEF10), transcript variant 1, mRNA [NM_018125]                     |
| A.23.P389255   | 2.998 | 1.584 | up | Homo sapiens ring finger protein 182 (RNF182), transcript variant 2, mRNA [NM_152737]   |
| A.33.P3337026  | 2.998 | 1.584 | up | Homo sapiens ring finger protein 182 (RNF182), transcript variant 8, mRNA [NM_152737]   |
| A.23.P57413    | 2.993 | 1.581 | up | Hydroxyglucosaminidase 1 (HYAL1), transcript variant 1, mRNA [NM_153261]  |
| A.21.P0000685  | 2.993 | 1.581 | up | Proteinase and actin regulator 4 (SourceHGNC:SymbolAccHGNC:29789) [ENS1000049369]   |
| A.21.P00001503 | 2.992 | 1.581 | up | LINC RNA [nc-CBER22-2], lincRNA [nc-CBER22-2.2]   |
| A.23.P300068   | 2.992 | 1.581 | up | PREDICTED: Homo sapiens uncharacterized LOC102725481 (LOC102725481), mRNA [XR_424443]   |
| A.21.P0000345  | 2.991 | 1.581 | up | Homo sapiens mitotic spindle positioning (MSP), mRNA [NM_173481]  |
| A.21.P0000345  | 2.991 | 1.581 | up | Homo sapiens small nucleolar RNA, H/ACA box 35 (SNORA35), small nucleolar RNA [NR_002893]   |

|                |       |       |       |       |   |
|----------------|-------|-------|-------|-------|---|
| A.23.P306531   | 2.960 | 1.580 | 2.980 | INP4A | Homo sapiens nucleolar polyphosphate-4 phosphatase, type 1, 107kDa (INP4A), transcript variant a, mRNA, NM_004027                   |
| A.21.P0012681  | 2.987 | 1.578 | 2.987 | up    | MIR435-1 host gene (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:35183]   |
| A.33.P342467   | 2.986 | 1.578 | 2.986 | up    | ENST00000494944   |
| A.23.P14975    | 2.986 | 1.578 | 2.986 | up    | Homo sapiens centromere, common sorting protein (CNST), transcript variant 1, mRNA, NM_152609                                       |
| A.23.P322385   | 2.985 | 1.578 | 2.985 | up    | Homo sapiens zinc finger and SCAN domain containing 173 (SCAN1), mRNA, NM_182972  |
| A.33.P3212845  | 2.985 | 1.578 | 2.985 | up    | Homo sapiens notch 2 N-terminal like (NOTCHNL), mRNA, NM_203458   |
| A.33.P3012293  | 2.983 | 1.577 | 2.983 | up    | Homo sapiens calcium binding protein 39 (CBP39), transcript variant 2, mRNA, NM_001130849   |
| A.22.P00011869 | 2.983 | 1.577 | 2.983 | up    | ENST00000283636   |
| A.22.P00007124 | 2.981 | 1.576 | 2.981 | up    | Homo sapiens zinc finger 2, transcriptional coactivator (HELZ2), transcript variant 1, mRNA, NM_001032836                           |
| A.33.P326423   | 2.981 | 1.576 | 2.981 | up    | Homo sapiens ATP1A upstream neighbor (ATP11AUN), mRNA, NM_207440  |
| A.33.P3408047  | 2.977 | 1.574 | 2.977 | up    | ENST00000283636   |
| A.24.P116335   | 2.974 | 1.573 | 2.974 | up    | Homo sapiens matrix metalloproteinase 15 (membrane-inserted) (MMP15), mRNA, NM_024228   |
| A.23.P161624   | 2.973 | 1.572 | 2.973 | up    | Homo sapiens FOS-like antigen 1 (FOSL1), transcript variant 1, mRNA, NM_005438  |
| A.33.P3259509  | 2.973 | 1.572 | 2.973 | up    | Homo sapiens FCH1 domain only 1 (FCHO1), transcript variant 1, mRNA, NM_001161357   |
| A.23.P130182   | 2.973 | 1.572 | 2.973 | up    | Homo sapiens aurora kinase B (AURKB), transcript variant 1, mRNA, NM_004217   |
| A.33.P306105   | 2.971 | 1.571 | 2.971 | up    | Homo sapiens von Willebrand factor A domain containing 6A (VWA6A), transcript variant 2, mRNA, NM_188315                            |
| A.33.P3316078  | 2.971 | 1.571 | 2.971 | up    | Homo sapiens integrator complex subunit 6 (INTS6), transcript variant 3, mRNA, NM_001039388   |
| A.23.P167188   | 2.971 | 1.571 | 2.971 | up    | Homo sapiens immunoglobulin J polypeptide, linker protein for immunoglobulin alpha and mu polypeptides (IGJ), mRNA, NM_144646       |
| A.23.P25615    | 2.969 | 1.570 | 2.969 | up    | Homo sapiens spermatogenesis and oogenesis specific basic helix-loop-helix 2 (SOHLH2), transcript variant 1, mRNA, NM_012826        |
| A.22.P00023470 | 2.967 | 1.569 | 2.967 | up    | ENST00000283636   |
| A.21.P068121   | 2.967 | 1.569 | 2.967 | up    | ENST00000283636   |
| A.22.P0010278  | 2.965 | 1.568 | 2.965 | up    | Homo sapiens pleckstrin and Sec7 domain containing 4 (PSC4), mRNA, NM_012415  |
| A.33.P3241591  | 2.964 | 1.568 | 2.964 | up    | ENST00000283636   |
| A.23.P13429    | 2.964 | 1.567 | 2.964 | up    | Homo sapiens cDNA EL13890, fig. clone BRAGE200184, [AK094218]   |
| A.23.P146844   | 2.963 | 1.567 | 2.963 | up    | Homo sapiens hematopoietic cell-specific Lyn substrate 1 (HCLSI1), transcript variant 1, mRNA, NM_005335                            |
| A.22.P00016489 | 2.962 | 1.567 | 2.962 | up    | Homo sapiens annexin A2 (ANXA2), transcript variant 2, mRNA, NM_001002857   |
| A.22.P00017026 | 2.962 | 1.566 | 2.962 | up    | PREDICTED: Homo sapiens uncharacterized LOC102724715 (LOC102724715), cDNA [XR_424811]   |
| A.33.P3282951  | 2.962 | 1.566 | 2.962 | up    | Homo sapiens cDNA clone IMAGE3286604, [BC042991]  |
| A.33.P3282951  | 2.962 | 1.566 | 2.962 | up    | Homo sapiens keratin associated protein 16-1 (KRTAP16-1), mRNA, NM_001148182  |
| A.33.P3460460  | 2.961 | 1.566 | 2.961 | up    | Homo sapiens hypothetical protein MGC20847, mRNA (cDNA clone IMAGE3355596), partial cds, [BC008289]                                 |
| A.33.P3334515  | 2.960 | 1.566 | 2.960 | up    | Homo sapiens NDRG family member 2 (NDRG2), transcript variant 1, mRNA, NM_001028213   |
| A.22.P00001180 | 2.959 | 1.565 | 2.959 | up    | Homo sapiens uncharacterized LOC100975930 (LOC100975930), long non-coding RNA [NR_123386]   |
| A.23.P18725    | 2.958 | 1.565 | 2.958 | up    | Homo sapiens solid carrier family 18 (monocarboxylate transporter), member 3 (SLC18A3), transcript variant 2, mRNA, NM_004242       |
| A.33.P3380056  | 2.958 | 1.564 | 2.958 | up    | Homo sapiens Myo SAN1-like DNA-binding domain containing 3 (MSANTD3), transcript variant 4, mRNA, NM_001198011                      |
| A.22.P00026370 | 2.955 | 1.563 | 2.955 | up    | ENST00000283636   |
| A.23.P215517   | 2.955 | 1.563 | 2.955 | up    | Homo sapiens hach-like family member 2 (HLH2), transcript variant 2, mRNA, NM_001172428   |
| A.24.P376232   | 2.954 | 1.563 | 2.954 | up    | Homo sapiens myo-1c-binding domain protein 1 (MBD1), transcript variant 2, mRNA, NM_015846  |
| A.22.P00000713 | 2.953 | 1.562 | 2.953 | up    | PREDICTED: Homo sapiens uncharacterized LOC100958940 (LOC100958940), cDNA [XR_110427]   |
| A.33.P3351510  | 2.951 | 1.561 | 2.951 | up    | Homo sapiens interleukin 1 receptor accessory protein-like 1 (ILRAPL1), mRNA, NM_014271   |
| A.32.P377880   | 2.951 | 1.561 | 2.951 | up    | Homo sapiens gli3 cell derived neurotrophic factor (GDNF), transcript variant 3, mRNA, NM_001190468                                 |
| A.23.P302881   | 2.950 | 1.560 | 2.950 | up    | Homo sapiens fibroblast-like 1 (FGLN1), transcript variant 1, mRNA, NM_001042782  |
| A.22.P00010515 | 2.949 | 1.560 | 2.949 | up    | LINCedial lincRNA (linc-NCDA5-1), lincRNA, linc-NCDA5-1-2   |
| A.33.P3278159  | 2.949 | 1.560 | 2.949 | up    | Homo sapiens golin A8 family, member 4 (GOLGA8), mRNA, NM_00128472  |
| A.23.P366812   | 2.947 | 1.559 | 2.947 | up    | Homo sapiens aquaporin 5 (AQP5), mRNA, NM_001051  |
| A.32.P189282   | 2.947 | 1.559 | 2.947 | up    | Homo sapiens heat shock protein 80Da alpha (cytosolic), class A member 1 (HSP90AA1), transcript variant 1, mRNA, NM_001071963       |
| A.33.P3217228  | 2.946 | 1.559 | 2.946 | up    | ATAD2   |
| A.22.P00200411 | 2.946 | 1.559 | 2.946 | up    | LINCedial lincRNA (linc-PINK1-1), lincRNA, linc-PINK1-1-1   |
| A.23.P305054   | 2.946 | 1.559 | 2.946 | up    | Homo sapiens keratin, type I cytoplasmic (K1), mRNA, NM_009146  |
| A.23.P305057   | 2.945 | 1.558 | 2.945 | up    | Homo sapiens protein kinase C eta (PRCKC), mRNA, NM_00104163  |
| A.33.P3386344  | 2.944 | 1.558 | 2.944 | up    | Homo sapiens homi anemia, complementation group A (FANGA), transcript variant 2, mRNA, NM_001018112                                 |
| A.33.P3389860  | 2.944 | 1.558 | 2.944 | up    | Homo sapiens pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 2 (PLEKH2), mRNA, NM_021823 |
| A.23.P328265   | 2.943 | 1.557 | 2.943 | up    | Homo sapiens glutamate receptor, ionotropic, delta 1 (GRD1), mRNA, NM_017251  |
| A.24.P106542   | 2.942 | 1.557 | 2.942 | up    | Homo sapiens R-spondin 3 (RSPO3), mRNA, NM_032784   |
| A.23.P255576   | 2.942 | 1.557 | 2.942 | up    | Homo sapiens coiled-coil domain containing 109B (CCDC109B), mRNA, NM_07918  |
| A.33.P336468   | 2.941 | 1.557 | 2.941 | up    | Homo sapiens nucleolar and spindle associated protein 1 (NUSAP1), transcript variant 1, mRNA, NM_018359                             |
| A.22.P00015002 | 2.941 | 1.556 | 2.941 | up    | G742L2 MYCPA (G742L2), Sarc, partial (7%) [H02769118]   |
| A.22.P00018189 | 2.940 | 1.556 | 2.940 | up    | LINCedial lincRNA (linc-ZNF609-1), lincRNA, linc-ZNF609-1-1   |
| A.22.P00005826 | 2.939 | 1.555 | 2.939 | up    | Homo sapiens GATA2 antisense RNA 1 (GATA2-AS1), long non-coding RNA [NR_123398]   |
| A.23.P138881   | 2.939 | 1.555 | 2.939 | up    | Homo sapiens mRNA, cDNA DKF264D031T1 (from clone DKF264D031T1), [AL37616]   |
| A.33.P3330039  | 2.938 | 1.555 | 2.938 | up    | Homo sapiens actinin, alpha 3 (gene pseudogene) (ACTN3), transcript variant 1, coding, mRNA, NM_001104                              |
| A.32.P145778   | 2.937 | 1.555 | 2.937 | up    | Homo sapiens pleckstrin homology domain containing, family O member 1 (PLEKH1), mRNA, NM_002721                                     |
| A.21.P0006324  | 2.937 | 1.554 | 2.937 | up    | Homo sapiens hach-like family, member K, pseudogene [Source:HGNC Symbol;Acc:HGNC:30182]   |
| A.21.P0006579  | 2.936 | 1.554 | 2.936 | up    | LINCedial lincRNA (linc-CheR8B-1), lincRNA, linc-CheR8B-1-1   |
| A.21.P0002272  | 2.934 | 1.553 | 2.934 | up    | Homo sapiens long intergenic non-protein coding RNA 1186 (LINC01186), long non-coding RNA [NR_110388]                               |
| A.23.P30175    | 2.934 | 1.553 | 2.934 | up    | LINCedial lincRNA (linc-IL37-1), lincRNA, linc-IL37-1-1   |
| A.23.P30175    | 2.934 | 1.553 | 2.934 | up    | Homo sapiens erbB2 interacting protein (ERBB2IP), transcript variant 2, mRNA, NM_018695   |

|                |       |       |       |    |                       |  |
|----------------|-------|-------|-------|----|-----------------------|--|
| A_30_P0276116  | 2.933 | 1.552 | 2.933 | up | CASP3                 | Homo sapiens caspase 3, apoptosis-related cysteine peptidase (CASP3), transcript variant alpha, mRNA [NM_004346]                                     |
| A_23_P186287   | 2.933 | 1.552 | 2.933 | up | ABCG1                 | Homo sapiens ATP-binding cassette, sub-family G (WHITE), member 1 (ABCG1), transcript variant 5, mRNA [NM_207827]                                    |
| A_23_P257176   | 2.932 | 1.552 | 2.932 | up | SLC4A9                | Homo sapiens solute carrier family 4, sodium bicarbonate cotransporter, member 9 (SLC4A9), transcript variant 2, mRNA [NM_031487]                    |
| A_33_P390985   | 2.932 | 1.552 | 2.932 | up | FLJ13744              | Homo sapiens cDNA FLJ13744, fig. clone PLACE300238 [AK023806]  |
| A_33_P3943493  | 2.930 | 1.551 | 2.930 | up | SAMD4                 | Homo sapiens sterile alpha motif domain containing 4A (SAMD4A), transcript variant 2, mRNA [NM_001615176]  |
| A_33_P331460   | 2.930 | 1.551 | 2.930 | up | GLDN16                | Homo sapiens glutathione S-transferase theta 16 (GLDN16), mRNA [NM_006580]   |
| A_21_P0003856  | 2.929 | 1.550 | 2.929 | up | LOC100957182          | HOMOGLY1, gal factor-1 (Homo sapiens) [ENSG00000195932], partial (3'), partial (3') [U628193.1]  |
| A_24_P268613   | 2.928 | 1.549 | 2.928 | up | GT2P22                | Homo sapiens GTP-binding protein 2 (GT2P22), transcript variant 1, mRNA [NM_019906]  |
| A_21_P0010684  | 2.928 | 1.549 | 2.928 | up | loc-ARBDC3-1          | UNGbeta1cRNA [loc-ARBDC3-1], lincRNA [loc-ARBDC3-1.13]   |
| A_21_P0010728  | 2.928 | 1.549 | 2.928 | up | LOC100507487          | Homo sapiens uncharacterized LOC100507487 (LOC100507487), long non-coding RNA [NR_126892]  |
| A_24_P184748   | 2.922 | 1.547 | 2.922 | up | LOC102751515          | Homo sapiens zinc finger protein 275 (ZNF275), mRNA [NM_001080485]   |
| A_22_P00007372 | 2.922 | 1.547 | 2.922 | up | LOC100957182          | Homo sapiens mRNA cDNA DKF454039 (from clone DKF454039), [AL_02037]  |
| A_33_P3373258  | 2.922 | 1.546 | 2.922 | up | GCJ1                  | Homo sapiens gap junction protein, gamma 1, 45kDa (GCJ1), transcript variant 1, mRNA [NM_005497]   |
| A_21_P0014889  | 2.921 | 1.546 | 2.921 | up | FAM138A               | Homo sapiens family with sequence similarity 138, member A (FAM138A), mRNA [NM_024922]   |
| A_21_P164451   | 2.921 | 1.546 | 2.921 | up | TBX2                  | Homo sapiens T-box 2 (TBX2), mRNA [NM_005894]  |
| A_22_P00004951 | 2.918 | 1.545 | 2.918 | up | STGALF-AS1            | Homo sapiens STGALF antisense RNA 1 (ST3GAL6-AS1), long non-coding RNA [NR_046868]   |
| A_22_P0010883  | 2.917 | 1.544 | 2.917 | up | loc-STX18-1           | o55604y1 Human lincRNA gland, unannotated; of Homo sapiens cDNA clone o55604.5, mRNA sequence [CK38929]  |
| A_22_P00006733 | 2.917 | 1.544 | 2.917 | up | NTSD33                | Homo sapiens 5'-nucleotidase domain containing 3 (NTSD33), mRNA [NM_001031701]   |
| A_32_P167120   | 2.915 | 1.543 | 2.915 | up | LOC407986             | Homo sapiens uncharacterized LOC407986 (LOC407986), long non-coding RNA [NR_123305]  |
| A_33_P3201565  | 2.912 | 1.542 | 2.912 | up | ZONAB1                | Homo sapiens zinc finger, RAN-binding domain containing 1 (ZONAB1), mRNA [NM_007036]   |
| A_33_P3239864  | 2.912 | 1.542 | 2.912 | up | ANKOD1A               | Homo sapiens zinc finger, RAN-binding domain containing 1A [Source:HGNC Symbol;Acc:HGNC:28602] [ENS1000049486]                                       |
| A_23_P149628   | 2.912 | 1.542 | 2.912 | up | PLEKHG5               | Homo sapiens pleckstrin homology domain containing family G (with RhoGAP domain) member 5 (PLEKHG5), transcript variant 2, mRNA [NM_198861]          |
| A_33_P3281335  | 2.912 | 1.542 | 2.912 | up | GPLX2                 | scapleain 2 [Source:HGNC Symbol;Acc:HGNC:2110] [ENS10000506942]  |
| A_32_P155247   | 2.912 | 1.542 | 2.912 | up | FTL                   | Homo sapiens ferritin, light polypeptide (FTL), mRNA [NM_000146]   |
| A_33_P3930734  | 2.911 | 1.542 | 2.911 | up | CCDC108               | Homo sapiens coiled-coil domain containing 108 (CCDC108), transcript variant 2, mRNA [NM_152389]   |
| A_33_P330758   | 2.909 | 1.541 | 2.909 | up | HSPA8                 | Homo sapiens heat shock 70kDa protein 8 (HSPA8), transcript variant 2, mRNA [NM_132201]  |
| A_21_P0014441  | 2.907 | 1.540 | 2.907 | up | ETNK1                 | Homo sapiens etanamide kinase 1 (ETNK1), transcript variant 2, mRNA [NM_001039481]   |
| A_33_P3351566  | 2.907 | 1.539 | 2.907 | up | loc-TSSKG-1           | UNGbeta1cRNA [loc-TSSKG-1], lincRNA [loc-TSSKG-1.1]  |
| A_22_P00016616 | 2.906 | 1.539 | 2.906 | up | HIST3H2BB             | Homo sapiens histone cluster 3, H2b (HIST3H2BB), mRNA [NM_175055]  |
| A_33_P3228335  | 2.905 | 1.538 | 2.905 | up | MUSK                  | muscle, skeletal, receptor tyrosine kinase [Source:HGNC Symbol;Acc:HGNC:7926] [ENS10000374493]   |
| A_33_P3920788  | 2.904 | 1.538 | 2.904 | up | ORHR1                 | corticoid-releasing hormone receptor 1 [Source:HGNC Symbol;Acc:HGNC:2897] [ENS10000609353]   |
| A_24_P367466   | 2.902 | 1.537 | 2.902 | up | loc-RNF125-2          | Homo sapiens gene IMAGE5765916, non-coding RNA, p53 induced transcript (LINC-PINT), transcript variant 4, long intergenic non-coding RNA [NR_098615] |
| A_33_P3663262  | 2.900 | 1.536 | 2.900 | up | LINC-PINT             | Homo sapiens long intergenic non-coding RNA p53 induced transcript (LINC-PINT), transcript variant 4, long intergenic non-coding RNA [NR_098615]     |
| A_19_P00321381 | 2.900 | 1.536 | 2.900 | up | TRIO                  | Homo sapiens Ras GTPase-activating protein 1 (TRIO), mRNA [NM_007118]  |
| A_23_P425980   | 2.899 | 1.536 | 2.899 | up | MGC22880              | Homo sapiens MGC22880 pseudogene (MGC22880), non-coding RNA [NR_002822]  |
| A_33_P3281418  | 2.898 | 1.535 | 2.898 | up | NCMAP                 | Homo sapiens noncoiled-coil domain containing protein (NCMAP), mRNA [NM_001010860]   |
| A_33_P3211198  | 2.898 | 1.535 | 2.898 | up | BROAD                 | Broad Institute lincRNA IL0C2.015121, lincRNA [CONS12_000292.2]  |
| A_21_P0013821  | 2.898 | 1.535 | 2.898 | up | ZFAND3                | Homo sapiens zinc finger, AN1-type domain 3 (ZFAND3), mRNA [NM_021943]   |
| A_33_P3248329  | 2.898 | 1.535 | 2.898 | up | PROX2                 | Homo sapiens prospero homeobox 2 (PROX2), transcript variant 1, mRNA [NM_001243007]  |
| A_33_P3311974  | 2.897 | 1.535 | 2.897 | up | NAALADL2              | N-acetylated alpha-linked acidic dipeptidase-like 2 [Source:HGNC Symbol;Acc:HGNC:23218] [ENS10000495000]   |
| A_33_P3698631  | 2.894 | 1.533 | 2.894 | up | loc-Ctcf228-3         | UNGbeta1cRNA [loc-Ctcf228-3], lincRNA [loc-Ctcf228-3.1]  |
| A_22_P00003003 | 2.893 | 1.533 | 2.893 | up | INSIG2                | Homo sapiens insulin induced gene 2 (INSIG2), mRNA [NM_016163]   |
| A_33_P3321342  | 2.893 | 1.533 | 2.893 | up | ADRA1D                | Homo sapiens adrenoceptor alpha 1D (ADRA1D), mRNA [NM_006678]  |
| A_33_P3245223  | 2.893 | 1.532 | 2.893 | up | ASK2L2                | Homo sapiens additional sex comb like transcriptional regulator 2 (ASK2L2), mRNA [NM_019293]   |
| A_33_P3248810  | 2.891 | 1.532 | 2.891 | up | PLRN1                 | QSOX1 HUMAN (QSOX1) Growth arrest-specific 6, partial (35%) [U62891.638]   |
| A_33_P3320285  | 2.891 | 1.531 | 2.891 | up | AVN1                  | Homo sapiens AVN1 (AVN1), transcript variant 1, mRNA [NM_146893]   |
| A_32_P326269   | 2.890 | 1.531 | 2.890 | up | loc-LIMP-4            | UNGbeta1cRNA [loc-LIMP-4], lincRNA [loc-LIMP-4.2]  |
| A_31_P5021526  | 2.889 | 1.531 | 2.889 | up | IGFBP7                | Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), transcript variant 2, mRNA [NM_001253835]  |
| A_22_P00202546 | 2.887 | 1.529 | 2.887 | up | loc-LRRC18-2          | AGENCOURT (5595465 NH) MGC.119 Homo sapiens cDNA clone IMAGE5744148.5, mRNA sequence [BM559346]  |
| A_22_P00008038 | 2.886 | 1.529 | 2.886 | up | IL23A                 | Homo sapiens interleukin 23, alpha subunit p19 (IL23A), transcript variant 2, non-coding RNA [NR_033381]   |
| A_22_P00009279 | 2.886 | 1.529 | 2.886 | up | CD9BP1                | Homo sapiens CD98 molecule pseudogene 1 (CD9BP1), transcript variant 2, non-coding RNA [NM_001018100]  |
| A_23_P78078    | 2.885 | 1.528 | 2.885 | up | MYZAP                 | Homo sapiens myocardial zenula adherens protein (MYZAP), transcript variant 1, mRNA [NM_001018100]   |
| A_21_P00113746 | 2.884 | 1.528 | 2.884 | up | LINC00889             | Homo sapiens long intergenic non-coding RNA 898 (LINC00889), long non-coding RNA [NR_027038]   |
| A_33_P3398688  | 2.884 | 1.528 | 2.884 | up | LOC101                | Homo sapiens glucocorticoid induced transcript 1 (LOC101), mRNA [NM_139226]  |
| A_21_P0010464  | 2.882 | 1.528 | 2.882 | up | GLCC1                 | Homo sapiens long intergenic non-coding RNA 994 (LINC00994), long non-coding RNA [NR_027038]   |
| A_23_P336198   | 2.882 | 1.528 | 2.882 | up | loc-CTD-380F.16.3.1-1 | UNGbeta1cRNA [loc-CTD-380F.16.3.1-1], lincRNA [loc-CTD-380F.16.3.1-1.1]  |
| A_22_P00004708 | 2.880 | 1.526 | 2.880 | up | LINC00954             | Homo sapiens long intergenic non-coding RNA 994 (LINC00954), long non-coding RNA [NR_027038]   |
| A_21_P0001765  | 2.879 | 1.525 | 2.879 | up | loc-ALBA-1            | DKF4539.51 (DKF2) Homo sapiens cDNA clone CTGNC20183115, mRNA sequence [D4445579]  |
| A_22_P00008973 | 2.876 | 1.524 | 2.876 | up | NCZ2                  | Homo sapiens nuclear pore complex factor 2 (NCZ2), transcript variant 1, mRNA [NM_004433]  |
| A_23_P183164   | 2.875 | 1.524 | 2.875 | up | KRT49B-3              | Homo sapiens keratin associated protein 6-3 (KRT49B-3), mRNA [NM_181005]   |
| A_24_P3381604  | 2.871 | 1.521 | 2.871 | up | RAC2                  | Homo sapiens ras-related G3 tubulinum toxin substrate 2 (ras family, small GTP-binding protein Rac2) (RAC2), mRNA [NM_002972]                        |
| A_23_P218770   | 2.870 | 1.521 | 2.870 | up | RAC2                  | Homo sapiens ras-related G3 tubulinum toxin substrate 2 (ras family, small GTP-binding protein Rac2) (RAC2), mRNA [NM_002972]                        |
| A_22_P0209200  | 2.869 | 1.521 | 2.869 | up | CCNE1                 | Homo sapiens cyclin E1 (CCNE1), mRNA [NM_001238]   |

|                |       |       |       |                       |    |   |
|----------------|-------|-------|-------|-----------------------|----|---|
| A_33_P3267946  | 2.866 | 1.520 | 2.888 | SLC25A23              | up | Homo sapiens solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 23 (SLC25A23), mRNA, NM_024103                 |
| A_33_P3262963  | 2.868 | 1.520 | 2.888 | AZML1                 | up | Homo sapiens alpha-2-macroglobulin-like 1 (AZML1), transcript variant 1, mRNA, NM_144070  |
| A_22_P00013602 | 2.867 | 1.519 | 2.887 | inc-RP11-538E17.5-1-1 | up | AGECOURT, R931389 NH MGC 40 Homo sapiens cDNA clone IMAGE6468384 5, mRNA sequence [BG922075]  |
| A_33_P3278654  | 2.867 | 1.519 | 2.887 | YAF21                 | up | Homo sapiens Yaf1 domain containing 1 (YAF1), transcript variant 2, mRNA, NM_001282446  |
| A_33_P3292327  | 2.866 | 1.519 | 2.886 | inc-SULF1-3           | up | Homo sapiens zinc finger protein ZFP92, zinc finger protein ZFP92, mRNA, NM_001198273   |
| A_33_P3293388  | 2.865 | 1.518 | 2.885 | DDI1                  | up | Q8T720 HUMAN (Q8T720) Full-length cDNA clone CSDD00237N15 of Neuroblastoma of Homo sapiens (human), fragment, partial, 305 (TH52780218) |
| A_24_P00025825 | 2.865 | 1.518 | 2.885 | inc-TNFRSF10B-4       | up | Homo sapiens dephosphoryl-ubiquitinase domain containing 1 (DDI1), mRNA, NM_004509  |
| A_21_P0007174  | 2.862 | 1.517 | 2.882 | TRHDC-AS1             | up | Homo sapiens TRHDC antisense RNA 1 (TRHDC-AS1), transcript variant 1, long non-coding RNA [NR_026833]                                   |
| A_24_P128233   | 2.862 | 1.517 | 2.882 | SON5A                 | up | Homo sapiens sodium channel, voltage-gated, type V, alpha subunit (SCN5A), transcript variant 2, mRNA, NM_000335                        |
| A_24_P416131   | 2.861 | 1.517 | 2.881 | GOT1L1                | up | Homo sapiens coactosin-like F-actin binding protein 1 (GOT1L1), mRNA, NM_021148   |
| A_22_P00023020 | 2.861 | 1.517 | 2.881 | PFP494                | up | Homo sapiens protein phosphatase 4, regulatory subunit 4 (PPP4R4), transcript variant 1, mRNA [NM_058237]                               |
| A_23_P42532    | 2.861 | 1.516 | 2.861 | HR                    | up | Homo sapiens hair growth associated (HR), transcript variant 1, mRNA, NM_005144   |
| A_33_P3384060  | 2.859 | 1.516 | 2.859 | PEA15                 | up | Homo sapiens phosphoprotein enriched in astrocytes 15 (PEA15), transcript variant 2, mRNA [NM_007768]                                   |
| A_24_P410892   | 2.859 | 1.515 | 2.859 | LOC101928249          | up | PREDICTED: Homo sapiens uncharacterized LOC101928249 (LOC101928249), transcript variant X2, mRNA, XR_490294                             |
| A_21_P00013086 | 2.855 | 1.513 | 2.855 | ATXN1L1               | up | ataxin 7-like 1 (Source:HGNC Symbol;Acc:HGNC:22210) [ENST00000388807]   |
| A_33_P3331095  | 2.853 | 1.512 | 2.853 | inc-MAGEA8-2          | up | LONGLEAD1, RNA, (inc-MAGEA8-2), lincRNA, (inc-MAGEA8-2-7)   |
| A_19_P03275940 | 2.852 | 1.512 | 2.852 | AN3B                  | up | Homo sapiens anectamin 3 (AN3B), mRNA, NM_029593  |
| A_32_P73452    | 2.850 | 1.511 | 2.850 | RTRF                  | up | Homo sapiens R1 thicane family, member 0 (RTRF), mRNA, NM_005518  |
| A_23_P792827   | 2.850 | 1.511 | 2.850 | RTRF2                 | up | Homo sapiens R1 thicane family, member 0 (RTRF2), mRNA, NM_005519   |
| A_22_P00029255 | 2.849 | 1.510 | 2.849 | ZSWIM4                | up | Homo sapiens zinc finger SWIM-type containing 4 (ZSWIM4), mRNA, NM_023072   |
| A_33_P3231550  | 2.848 | 1.510 | 2.848 | inc-MAP1LC3C-1        | up | LONGLEAD1, lincRNA, (inc-MAP1LC3C-1), lincRNA, (inc-MAP1LC3C-1)   |
| A_22_P00009844 | 2.848 | 1.509 | 2.848 | CD177                 | up | CD177 molecule pseudogene 1 (Source:HGNC Symbol;Acc:HGNC:34508) [ENST00000606242]   |
| A_32_P15713    | 2.845 | 1.509 | 2.845 | FGF2                  | up | Homo sapiens fibroblast growth factor 2 (basic) (FGF2), mRNA, NM_002006   |
| A_22_P00009209 | 2.845 | 1.508 | 2.845 | ADAM32                | up | Homo sapiens ADAM metallopeptidase domain 32 (ADAM32), mRNA, NM_145004  |
| A_33_P3418696  | 2.845 | 1.507 | 2.845 | RNF189                | up | Homo sapiens ring finger protein 189 (RNF189), mRNA, NM_001098838   |
| A_33_P3412428  | 2.842 | 1.507 | 2.842 | C8orf60               | up | Homo sapiens c8orf60 (C8orf60), mRNA, NM_001098838  |
| A_23_P390172   | 2.842 | 1.507 | 2.842 | INTNG2                | up | Homo sapiens cDNA FLJ12183, clone MAMMA100856, [AK022255]   |
| A_21_P0004614  | 2.842 | 1.507 | 2.842 | RRRES2                | up | LONGLEAD1, lincRNA, (inc-SIK1-4), lincRNA, (inc-SIK1-4)   |
| A_33_P3788812  | 2.841 | 1.506 | 2.841 | WD83                  | up | PREDICTED: Homo sapiens uncharacterized LOC100906908 (LOC100906908), transcript variant X1, mRNA, XR_088115                             |
| A_21_P0010293  | 2.840 | 1.506 | 2.840 | WD83                  | up | Homo sapiens WD repeat domain 83 (WD83), transcript variant 2 (PARRES2), mRNA [NM_026389]   |
| A_23_P423231   | 2.839 | 1.506 | 2.839 | LOC101928820          | up | Homo sapiens WD repeat domain 83 (WD83), transcript variant 2 (PARRES2), mRNA [NM_026389]   |
| A_21_P0005121  | 2.838 | 1.505 | 2.838 | DIART                 | up | PREDICTED: Homo sapiens uncharacterized LOC101928820 (LOC101928820), mRNA, [X6_241868]  |
| A_23_P184237   | 2.837 | 1.505 | 2.837 | ZNF83                 | up | Homo sapiens zinc finger protein 83 (ZNF83), transcript variant 1, mRNA [NM_144897]   |
| A_21_P02924    | 2.836 | 1.504 | 2.836 | ZNF83                 | up | Homo sapiens zinc finger protein 83 (ZNF83), transcript variant 10, mRNA, NM_001277945  |
| A_22_P00015108 | 2.835 | 1.503 | 2.835 | DIART                 | up | actin, beta pseudogene 12 (Source:HGNC Symbol;Acc:HGNC:190) [ENST00000594833]   |
| A_33_P3415226  | 2.834 | 1.503 | 2.834 | ATPV1C2               | up | Homo sapiens atpase, H+ transporting, lysosomal 42Da, V1 subunit C2 (ATP1V1C2), transcript variant 1, mRNA [NM_144897]                  |
| A_24_P27682    | 2.834 | 1.503 | 2.834 | ITGB1P1               | up | Homo sapiens integrin beta 1 binding protein 1 (ITGB1P1), transcript variant 2, mRNA, NM_022334   |
| A_33_P3256886  | 2.834 | 1.502 | 2.834 | CYBA                  | up | Homo sapiens cytochrome b-245, alpha polypeptide (CYBA), mRNA, NM_000101  |
| A_33_P3415226  | 2.832 | 1.502 | 2.832 | ZNF729                | up | Homo sapiens zinc finger protein 729 (ZNF729), mRNA, NM_001249880   |
| A_33_P337332   | 2.832 | 1.502 | 2.832 | INTG3A                | up | Homo sapiens 5-nucleotidase, cytosolic IIIA (NT5G3A), transcript variant 2, mRNA, NM_001002009  |
| A_33_P3418611  | 2.832 | 1.502 | 2.832 | SJRB3                 | up | Homo sapiens gap junction protein beta 3, 3 HDs (GJB3), transcript variant 1, mRNA, NM_024009   |
| A_23_P39547    | 2.832 | 1.502 | 2.832 | INPEPP3               | up | Homo sapiens aminopeptidase pyrolysate sensitive (INPEPP3), mRNA, NM_006510   |
| A_24_P392533   | 2.831 | 1.501 | 2.831 | ARHGAP27              | up | Homo sapiens Rho GTPase activating protein 27 (ARHGAP27), transcript variant 3, mRNA [NM_174919]  |
| A_24_P409546   | 2.831 | 1.501 | 2.831 | SH3GL1                | up | SSDZ2 pseudogene 3 (Source:HGNC Symbol;Acc:HGNC:4362) [ENST00000361136]   |
| A_33_P343102   | 2.830 | 1.501 | 2.830 | IGFBP7                | up | Homo sapiens SH3 domain GBE2-like 1 (SH3GL1), transcript variant 1, mRNA, NM_003226   |
| A_33_P3418949  | 2.830 | 1.501 | 2.830 | MAFG                  | up | Homo sapiens SH3 domain growth factor binding protein 7 (IGFBP7), transcript variant 1, mRNA [NM_001653]                                |
| A_24_P126284   | 2.830 | 1.501 | 2.830 | MAFG                  | up | Homo sapiens y-maf avian musculoaponeurotic fibrosarcoma oncogene homolog G (MAFG), transcript variant 2, mRNA, NM_032711               |
| A_23_P393035   | 2.830 | 1.501 | 2.830 | OSMR-AS1              | up | Homo sapiens OSMR antisense RNA 1 (head to head) (OSMR-AS1), long non-coding RNA [NR_108951]  |
| A_33_P3416797  | 2.829 | 1.500 | 2.829 | OSMR-AS1              | up | Homo sapiens uncharacterized LOC101927136 (LOC101927136), long non-coding RNA [NR_108951]   |
| A_33_P3377119  | 2.828 | 1.500 | 2.828 | PWWP2B                | up | Homo sapiens PWWP domain containing 2B (PWWP2B), transcript variant 1, mRNA, NM_198499  |
| A_22_P00006467 | 2.828 | 1.500 | 2.828 | PWWP2B                | up | Homo sapiens PWWP domain containing 2B (PWWP2B), transcript variant 1, mRNA, NM_198499  |
| A_19_P00321192 | 2.826 | 1.489 | 2.826 | inc-PKNS-2            | up | LONGLEAD1, lincRNA, (inc-PKNS-2), lincRNA, (inc-PKNS-2-1)   |
| A_23_P374889   | 2.825 | 1.488 | 2.825 | FBSR1L                | up | Fibronin-like 1 (Source:HGNC Symbol;Acc:HGNC:25098) [ENST00000542061]   |
| A_23_P00011960 | 2.824 | 1.488 | 2.824 | AFIL1                 | up | Homo sapiens allograft inflammatory factor 1-like (AFIL1), transcript variant 3, mRNA [NM_001195095]                                    |
| A_21_P0014039  | 2.824 | 1.488 | 2.824 | RRTAP1-5              | up | Homo sapiens keratin associated protein 1-3 (RRTAP1-3), mRNA, NM_031957   |
| A_33_P3260653  | 2.824 | 1.488 | 2.824 | PEA15                 | up | Homo sapiens keratin associated protein 1-3 (RRTAP1-3), mRNA, NM_031957   |
| A_23_P118842   | 2.824 | 1.488 | 2.824 | TINF2                 | up | Homo sapiens phosphoprotein enriched in astrocytes 15 (PEA15), transcript variant 1, mRNA [NM_001293730]                                |
| A_33_P3220827  | 2.824 | 1.488 | 2.824 | TINF2                 | up | Homo sapiens TRIF (TRIF)-interacting nuclear factor 2 (TINF2), transcript variant 2, mRNA [NM_024461]                                   |
| A_33_P337941   | 2.823 | 1.487 | 2.823 | SH3BPRL2              | up | Homo sapiens SH3 domain binding glutathione-rich protein like 2 (SH3BPRL2), mRNA, NM_0314460  |
| A_33_P3243316  | 2.823 | 1.487 | 2.823 | ORH186                | up | Homo sapiens olfactory receptor, family 11, subfamily B, member 8 (ORH186), mRNA, NM_001004150  |
| A_33_P3319845  | 2.823 | 1.487 | 2.823 | ZNF467                | up | Homo sapiens zinc finger protein 467 (ZNF467), mRNA, NM_207438  |
| A_24_P161718   | 2.822 | 1.487 | 2.822 | ZNF254                | up | Homo sapiens zinc finger protein 254 (ZNF254), transcript variant 1, mRNA, NM_001278677   |
| A_33_P3252630  | 2.822 | 1.486 | 2.822 | LOC389033             | up | Homo sapiens zinc finger protein 254 (ZNF254), transcript variant 1, mRNA, NM_001278677   |
| A_33_P3283601  | 2.821 | 1.486 | 2.821 | LOC389033             | up | Homo sapiens placenta-specific 9 pseudogene (LOC389033), non-coding RNA, [NR_026746]  |



|                |       |       |       |                |  |
|----------------|-------|-------|-------|----------------|--|
| A.21.P0011619  | 2.821 | 1.486 | 2.821 | TBC1D3P5       | Homo sapiens TBC1 domain family, member 3 pseudogene 5 (TBC1D3P5), non-coding RNA [NR_033882]  |
| A.22.P00008177 | 2.817 | 1.484 | 2.817 | inc-INPPL-1    | GZ7777 HUMAN (GZ7777) CLPB protein, partial (73), [HG2647433]  |
| A.23.P377864   | 2.816 | 1.484 | 2.816 | ALS2           | Homo sapiens amyotrophic lateral sclerosis 2 (juvenile) (ALS2), transcript variant 2, mRNA [NM_001135745]                                      |
| A.33.P3307363  | 2.815 | 1.483 | 2.815 | LPHN2          | Homo sapiens lathropilin 2 (LPHN2), transcript variant 3, mRNA [NM_001297705]  |
| A.21.P0013500  | 2.815 | 1.483 | 2.815 |                | PREDICTED: Homo sapiens protein FAM136A-like [LOC100287829], mRNA [XM_002342380]   |
| A.19.P00317836 | 2.813 | 1.482 | 2.813 |                | MIR4381-1 host gene (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:35181]   |
| A.33.P3252420  | 2.813 | 1.482 | 2.813 | LPHN2          | Homo sapiens lathropilin 2 (LPHN2), transcript variant 1, mRNA [NM_0123023]  |
| A.33.P3404959  | 2.812 | 1.482 | 2.812 | NRGN           | Homo sapiens neurogranin (protein kinase C substrate, RGS) (NRGN), transcript variant 1, mRNA [NM_006178]                                      |
| A.23.P1161684  | 2.811 | 1.481 | 2.811 |                | Homo sapiens Rho GTPase activating protein 27 (ARHGAP27), transcript variant 4, mRNA [NM_001282290]  |
| A.33.P3281958  | 2.811 | 1.481 | 2.811 | ARHGAP27       | Homo sapiens Rho GTPase activating protein 27 (ARHGAP27), transcript variant 4, mRNA [NM_001282290]  |
| A.23.P184253   | 2.810 | 1.481 | 2.810 | PPV2           | Homo sapiens paracetamol acyltransferase 2 (PPV2), non-coding RNA [NR_002181]  |
| A.33.P3217892  | 2.810 | 1.481 | 2.810 | CALM2          | Homo sapiens calmodulin 2 (phosphorylase kinase, delta) (CALM2), mRNA [NM_007143]  |
| A.23.P181076   | 2.808 | 1.480 | 2.808 | ENDP2          | Homo sapiens endonuclease G22, mRNA [NM_001767]  |
| A.32.P182276   | 2.807 | 1.480 | 2.807 | ENPP1          | Homo sapiens ectonucleotide pyrophosphatase/phosphodiesterase 1 (ENPP1), mRNA [NM_008208]  |
| A.33.P3278552  | 2.806 | 1.480 | 2.806 | KRT183         | Homo sapiens keratin 83, type II (KRT183), mRNA [NM_002282]  |
| A.21.P0000658  | 2.804 | 1.480 | 2.804 |                | PREDICTED: Homo sapiens solute carrier family 24, member 31 (SLC22A31), transcript variant X3, mRNA [XM_006721147]                             |
| A.21.P0011482  | 2.804 | 1.480 | 2.804 | SLC22A31       | Homo sapiens solute carrier family 24, member 31 (SLC22A31), transcript variant X3, mRNA [XM_006721147]  |
| A.33.P3619581  | 2.804 | 1.480 | 2.804 |                | Homo sapiens eDNA clone IMAGE4826905 [BC038282]  |
| A.33.P3261111  | 2.803 | 1.480 | 2.803 | MIR7-3HG       | Homo sapiens MIR7-2 host gene (non-protein coding) (MIR7-3HG), long non-coding RNA [NR_027148]   |
| A.21.P0011884  | 2.803 | 1.480 | 2.803 | ALOC12007834   | BROAD Institute lincRNA ALLOC12007834, lincRNA [LOC5314341]  |
| A.33.P3261136  | 2.803 | 1.480 | 2.803 | COX8B          | Homo sapiens family 8 cytochrome b oxidase subunit 8, isoform B (PAM15B), mRNA [NM_001080515]  |
| A.23.P124137   | 2.802 | 1.480 | 2.802 | COX8B1         | Homo sapiens family 8 cytochrome b oxidase subunit 8, isoform B (PAM15B), mRNA [NM_001080515]  |
| A.33.P3369250  | 2.800 | 1.480 | 2.800 | MAD2L2         | MAD2, mitotic defect-like 2 (yeast) [Source:HGNC Symbol;Acc:HGNC:6784]   |
| A.19.P00315760 | 2.799 | 1.480 | 2.799 | LOC101820709   |  |
| A.32.P3281     | 2.799 | 1.480 | 2.799 | ORF156P        | Homo sapiens orfatory receptor, family 1, subfamily E, member 156 pseudogene (ORF156P), non-coding RNA [NR_002171]                             |
| A.33.P332782   | 2.798 | 1.480 | 2.798 | FEERM2         | Homo sapiens febrilin family, member 2 (FEERM2), transcript variant 3, mRNA [NM_001135000]   |
| A.32.P334482   | 2.797 | 1.480 | 2.797 |                | small integral membrane protein, member 2 (FEERM2), transcript variant 3, mRNA [NM_001135000]  |
| A.22.P00006100 | 2.796 | 1.480 | 2.796 | LOC1148709     | Homo sapiens actin pseudogene (LOC1148709), non-coding RNA [NR_002929]   |
| A.24.P344880   | 2.795 | 1.480 | 2.795 | HSPH1          | Homo sapiens heat shock 105kDa/110kDa protein 1 (HSPH1), transcript variant 1, mRNA [NM_006644]  |
| A.33.P3348752  | 2.795 | 1.480 | 2.795 | SMS            | Homo sapiens spermin synthase (SMS), transcript variant 1, mRNA [NM_004595]  |
| A.24.P095174   | 2.794 | 1.480 | 2.794 | PBX4           | Homo sapiens pre-B-cell leukemia homeobox 4 (PBX4), transcript variant 1, mRNA [NM_002946]   |
| A.21.P0000597  | 2.793 | 1.480 | 2.793 | CTSLEP8        | Homo sapiens cathelin 1, pseudogene 8 (CTSLEP8), non-coding RNA [NR_035405]  |
| A.22.P00007635 | 2.793 | 1.480 | 2.793 | FAM13A-AS1     | Homo sapiens FAM13A antisense RNA 1 (FAM13A-AS1), long non-coding RNA [NR_028106]  |
| A.21.P0007175  | 2.792 | 1.480 | 2.792 | inc-C1DSF2-4   | Homo sapiens ST2202 eDNA clone IMAGE4838978 [BC038301]   |
| A.24.P146670   | 2.791 | 1.480 | 2.791 | SLK            | Homo sapiens SLK, serine/threonine kinase (SLK), mRNA [NM_014720]  |
| A.23.P129332   | 2.791 | 1.480 | 2.791 | PKD1L2         | Homo sapiens Rho GTPase activating protein 32 (ARHGAP32), transcript variant 3, mRNA [NM_001076280]  |
| A.19.P00811843 | 2.789 | 1.480 | 2.789 | ARHGAP32       | Homo sapiens Rho GTPase activating protein 32 (ARHGAP32), transcript variant 1, mRNA [NM_001142888]  |
| A.33.P3272169  | 2.787 | 1.479 | 2.787 | CLIP2          | Homo sapiens CAP-CLY domain containing linker protein 2 (CLIP2), transcript variant 1, mRNA [NM_003388]  |
| A.33.P3305649  | 2.787 | 1.479 | 2.787 | MAR1LC3B       | Homo sapiens microtubule-associated protein 1, light chain 3 beta (MAR1LC3B), mRNA [NM_022818]   |
| A.23.P77620    | 2.786 | 1.478 | 2.786 | LINC00320      | Homo sapiens long intergenic non-protein coding RNA 320 (LINC00320), transcript variant 1, long non-coding RNA [NR_09788]                      |
| A.21.P0010183  | 2.784 | 1.477 | 2.784 | IFNL2          | Homo sapiens interferon, lambda 2 (IFNL2), mRNA [NM_172138]  |
| A.23.P409438   | 2.783 | 1.477 | 2.783 | SLC22A2        | Homo sapiens solute carrier family 22 (organic cation transporter), member 2 (SLC22A2), mRNA [NM_005058]                                       |
| A.23.P111395   | 2.781 | 1.476 | 2.781 | LINC01341      | Homo sapiens long intergenic non-protein coding RNA 1341 (LINC01341), long non-coding RNA [NR_015422]  |
| A.33.P3397348  | 2.781 | 1.475 | 2.781 |                | Homo sapiens solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 23 (SLC22A23), mRNA [NM_024103]                       |
| A.32.P24522    | 2.780 | 1.475 | 2.780 | SLC25A23       | Homo sapiens solute carrier family 25 (mitochondrial carrier, phosphate carrier), member 23 (SLC22A23), mRNA [NM_024103]                       |
| A.33.P3261173  | 2.780 | 1.475 | 2.780 | TFAP2A         | Homo sapiens transcription factor AP-2 alpha (activating enhancer binding protein 2 alpha) (TFAP2A), transcript variant 2, mRNA [NM_001032280] |
| A.33.P3361546  | 2.778 | 1.474 | 2.778 | TMEH2-AS1      | Homo sapiens TMEH2 antisense RNA 1 (TMEH2-AS1), long non-coding RNA [NR_048852]  |
| A.21.P00002006 | 2.777 | 1.474 | 2.777 | SFRM5          | Homo sapiens serine/arginine repetitive matrix 5 (SFRM5), mRNA [NM_001145641]  |
| A.24.P256018   | 2.776 | 1.473 | 2.776 |                | Homo sapiens serine/arginine repetitive matrix 5 (SFRM5), mRNA [NM_001145641]  |
| A.21.P0019258  | 2.775 | 1.473 | 2.775 | XLOC12013332   | BROAD Institute lincRNA XLOC12013332, lincRNA [TCO512_0028125]   |
| A.33.P343386   | 2.775 | 1.472 | 2.775 | FSL            | Homo sapiens testis-expressed, seven-twelve, leukemia (TSL), transcript variant 1, long non-coding RNA [NR_122122]                             |
| A.21.P0014843  | 2.774 | 1.472 | 2.774 |                | Homo sapiens eDNA FLJ26877 fs, clone FRS00087, [AK130387]  |
| A.32.P3210655  | 2.773 | 1.471 | 2.773 | 22C03          | Homo sapiens C2 calcium-dependent domain containing 3 (C2C03), transcript variant 2, mRNA [NM_015531]  |
| A.24.P021925   | 2.773 | 1.471 | 2.773 |                | Homo sapiens C2 calcium-dependent domain containing 3 (C2C03), transcript variant 2, mRNA [NM_015531]  |
| A.33.P302344   | 2.773 | 1.471 | 2.773 | LMTK3          | Homo sapiens lemur tyrosine kinase 3 (LMTK3), mRNA [NM_00106543]   |
| A.22.P0020588  | 2.772 | 1.471 | 2.772 | MTOR3          | Homo sapiens collagen, type IX alpha 3 (COL9A3), mRNA [NM_001053]  |
| A.33.P320028   | 2.772 | 1.471 | 2.772 | TFEB3          | Homo sapiens transcription factor EB3 (TFEB3), mRNA [NM_001053]  |
| A.23.P257158   | 2.771 | 1.471 | 2.771 | inc-TMEM132B-4 | LNCipedia lincRNA, linc-TMEM132B-4, lincRNA [nc-TMEM132B-4]  |
| A.21.P0001657  | 2.771 | 1.470 | 2.771 | INC132B        | Homo sapiens TBC1 domain family, member 3B (TBC132B), mRNA [NM_001001417]  |
| A.33.P3261230  | 2.769 | 1.470 | 2.769 | INC132B        | Homo sapiens TBC1 domain family, member 3B (TBC132B), mRNA [NM_001001417]  |
| A.24.P155520   | 2.769 | 1.469 | 2.769 | PGL            | Homo sapiens abaphat/linolitol alpha anchor biosynthesis, class I (PGL), mRNA [NM_004278]  |
| A.23.P38618    | 2.769 | 1.469 | 2.769 | PAQR7          | Homo sapiens progesterin and adipoQ receptor, family member VII (PAQR7), mRNA [NM_178422]  |
| A.32.P338180   | 2.769 | 1.469 | 2.769 |                |  |

|                |       |       |  |                       |    |       |       |    |  |
|----------------|-------|-------|--|-----------------------|----|-------|-------|----|--|
| A_30_P028457   | 2.767 | 1.469 |  | ZAK                   | up | 2.767 | 1.469 | up | Human sterile alpha motif and leucine zipper containing kinase ZAK (ZAK), transcript variant 1, mRNA [NM_0116653]          |
| A_24_P39146    | 2.766 | 1.468 |  | EFRB3                 | up | 2.766 | 1.468 | up | Human EFR3 homolog B (S. cerevisiae) (EFRB3), mRNA [NM_014971]   |
| A_33_P328956   | 2.766 | 1.468 |  | PDLIM7                | up | 2.766 | 1.468 | up | Human PDLIM7 (PDLIM7), transcript variant 4, mRNA [NM_215836]  |
| A_33_P328952   | 2.765 | 1.468 |  | DGFR-AS1              | up | 2.765 | 1.468 | up | Human DGFR-AS1 (DGFR-AS1), long non-coding RNA [NR_024300]   |
| A_22_P0007404  | 2.765 | 1.466 |  | WFD5                  | up | 2.765 | 1.466 | up | Human WAP four-disulfide core domain 5 (WFD5), mRNA [NM_145692]  |
| A_23_P402331   | 2.765 | 1.466 |  | LATS2                 | up | 2.765 | 1.466 | up | Human large tumor suppressor kinase 2 (LATS2), mRNA [NM_014572]  |
| A_24_P70002    | 2.762 | 1.468 |  | ORBT1                 | up | 2.762 | 1.468 | up | Human olfactory receptor family 8, subfamily T, member 1 (ORBT1), mRNA [NM_001009187]                                      |
| A_33_P3217019  | 2.762 | 1.468 |  | MLT4-AS1              | up | 2.762 | 1.468 | up | Human MLT4 antisense RNA 1 (head to head) (MLT4-AS1), long non-coding RNA [NR_027860]                                      |
| A_33_P3342489  | 2.762 | 1.464 |  | LGALS3                | up | 2.762 | 1.464 | up | Human lectin, galactoside-binding, soluble, 3 (LGALS3), transcript variant 1, mRNA [NM_002306]                             |
| A_23_P128919   | 2.758 | 1.464 |  | inc-TMEM78-2          | up | 2.758 | 1.464 | up | Human TMEM78-2 (TMEM78-2), lincRNA [linc-TMEM78-2] [NM_001201466]  |
| A_33_P3273857  | 2.757 | 1.463 |  | inc-102723859         | up | 2.757 | 1.463 | up | Human 102723859 (inc-102723859), lincRNA [linc-102723859] [NM_001201466]   |
| A_23_P214330   | 2.756 | 1.462 |  | SEPPINB1              | up | 2.756 | 1.462 | up | Human serpin peptidase inhibitor, clade B (ovalbumin), member 1 (SEPPINB1), transcript variant 1, mRNA [NM_030666]         |
| A_23_P38740    | 2.755 | 1.462 |  | GDNF                  | up | 2.755 | 1.462 | up | Human glycerol-3-phosphate dehydrogenase protein N (GDNF), transcript variant 2, mRNA [NM_018455]                          |
| A_23_P10451    | 2.754 | 1.461 |  | GDDA5                 | up | 2.754 | 1.461 | up | Human glycerol-3-phosphate dehydrogenase protein N (GDNF), transcript variant 5 (GDDA5), mRNA [NM_030668]                  |
| A_21_P0008593  | 2.752 | 1.460 |  | inc-RP11-529J17.2-1-2 | up | 2.752 | 1.460 | up | Human RP11-529J17.2-1-2 (inc-RP11-529J17.2-1-2), lincRNA [linc-RP11-529J17.2-1-2] [NM_001009293]                           |
| A_23_P294879   | 2.752 | 1.460 |  | CAB39L                | up | 2.752 | 1.460 | up | Human calcium binding protein 39-like (CAB39L), transcript variant 5, mRNA [NM_030625]                                     |
| A_23_P211878   | 2.751 | 1.460 |  | FLNB                  | up | 2.751 | 1.460 | up | Human fiblin B, beta (FLNB), transcript variant 2, mRNA [NM_001457]  |
| A_33_P3404879  | 2.750 | 1.459 |  | LPHN2                 | up | 2.750 | 1.459 | up | Human leucine-rich repeat protein 2 (LPHN2), transcript variant 4, mRNA [NM_001297768]                                     |
| A_32_P300649   | 2.748 | 1.459 |  | ETV5                  | up | 2.748 | 1.459 | up | Human ets variant 5 (ETV5), mRNA [NM_004494]   |
| A_33_P3278221  | 2.748 | 1.458 |  | AMPD3                 | up | 2.748 | 1.458 | up | Human adenosine phosphatase 3 (AMPD3), transcript variant 3, mRNA [NM_0028390]   |
| A_24_P304154   | 2.747 | 1.458 |  | ARGPY                 | up | 2.747 | 1.458 | up | Human arginine f-lyase/lysine 7-arginase (ARGPY), mRNA [NM_00102659]   |
| A_33_P3209706  | 2.747 | 1.458 |  | inc-LRR-1             | up | 2.747 | 1.458 | up | Human lincRNA [linc-LRR-1], lincRNA [linc-LRR-1] [NM_00102659]   |
| A_22_P0049015  | 2.747 | 1.458 |  | FEXO3                 | up | 2.747 | 1.458 | up | Human F-box protein 3 (FEXO3), transcript variant 2, mRNA [NM_033406]  |
| A_23_P363926   | 2.747 | 1.457 |  | ZNF883                | up | 2.747 | 1.457 | up | Human zinc finger protein 83 (Source:HGNC Symbol;Acc:HGNC:13158) [ENST00000268190]   |
| A_19_P00322742 | 2.746 | 1.457 |  | AURKA                 | up | 2.746 | 1.457 | up | Human aurora kinase A (AURKA), transcript variant 1, mRNA [NM_188433]  |
| A_23_P131566   | 2.745 | 1.457 |  | ABHD5                 | up | 2.745 | 1.457 | up | Human serpin peptidase inhibitor, clade B (ovalbumin), member 1 (SEPPINB1), transcript variant 1, mRNA [NM_030666]         |
| A_23_P250294   | 2.745 | 1.457 |  | ABHD5                 | up | 2.745 | 1.457 | up | Human serpin peptidase inhibitor, clade B (ovalbumin), member 1 (SEPPINB1), transcript variant 5 (ABHD5), mRNA [NM_016006] |
| A_23_P334196   | 2.744 | 1.456 |  | LRR2                  | up | 2.744 | 1.456 | up | Human leucine rich repeat containing 2 (LRR2), mRNA [NM_024512]  |
| A_22_P0000609  | 2.744 | 1.456 |  | inc-ACOT1-1           | up | 2.744 | 1.456 | up | Human ACOT1-1 (inc-ACOT1-1), lincRNA [linc-ACOT1-1] [NM_001009293]   |
| A_33_P330452   | 2.744 | 1.456 |  | inc-NCDA5-1           | up | 2.744 | 1.456 | up | Human NCDA5-1 (inc-NCDA5-1), lincRNA [linc-NCDA5-1] [NM_001009293]   |
| A_21_P0007221  | 2.743 | 1.456 |  | LOC101927086          | up | 2.743 | 1.456 | up | Human uncharacterized LOC101927086 (LOC101927086), transcript variant 1, long non-coding RNA [NR_123955]                   |
| A_33_P307119   | 2.743 | 1.456 |  | ORBT1                 | up | 2.743 | 1.456 | up | Human olfactory receptor family 8, subfamily T, member 1 (ORBT1), mRNA [NM_001009187]                                      |
| A_33_P0003119  | 2.742 | 1.455 |  | RAB30-AS1             | up | 2.742 | 1.455 | up | Human RAB30 antisense RNA 1 (head to head) (RAB30-AS1), long non-coding RNA [NR_038905]                                    |
| A_23_P214807   | 2.742 | 1.455 |  | MTFHD1L               | up | 2.742 | 1.455 | up | Human methyltetrahydrofolate dehydrogenase (NADP+ dependent) 1-like (MTHFD1L), transcript variant 2, mRNA [NM_013460]      |
| A_33_P326564   | 2.740 | 1.454 |  | KRTAP5-6              | up | 2.740 | 1.454 | up | Human keratin-associated protein 5-6 (KRTAP5-6), mRNA [NM_00102416]  |
| A_22_P0016208  | 2.739 | 1.454 |  | inc-TMD2-1            | up | 2.739 | 1.454 | up | Human TMD2-1 (inc-TMD2-1), lincRNA [linc-TMD2-1] [NM_001009293]  |
| A_22_P213330   | 2.738 | 1.453 |  | ARRHGFE28             | up | 2.738 | 1.453 | up | Human serpin Rho guanine nucleotide exchange factor (GEF) 28 (ARRHGFE28), transcript variant 2, mRNA [NM_001172693]        |
| A_22_P0010563  | 2.737 | 1.453 |  | RGS5D1                | up | 2.737 | 1.453 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P23279    | 2.736 | 1.452 |  | KLHL36                | up | 2.736 | 1.452 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_33_P3302393  | 2.736 | 1.452 |  | JUMN                  | up | 2.736 | 1.452 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_24_P18270    | 2.736 | 1.452 |  | JUMN                  | up | 2.736 | 1.452 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P38873    | 2.735 | 1.452 |  | GAN                   | up | 2.735 | 1.452 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_24_P941359   | 2.734 | 1.451 |  | FAM65B                | up | 2.734 | 1.451 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_33_P17593    | 2.733 | 1.450 |  | CDH4                  | up | 2.733 | 1.450 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_33_P324184   | 2.732 | 1.450 |  | ZNF419                | up | 2.732 | 1.450 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_33_P322985   | 2.732 | 1.450 |  | TMEM89                | up | 2.732 | 1.450 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_33_P340385   | 2.731 | 1.450 |  | BATF                  | up | 2.731 | 1.450 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P12874    | 2.731 | 1.450 |  | RABGTA                | up | 2.731 | 1.450 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P54223    | 2.731 | 1.450 |  | RABGTA                | up | 2.731 | 1.450 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P005159   | 2.731 | 1.449 |  | ABHD3                 | up | 2.731 | 1.449 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P13066    | 2.730 | 1.449 |  | USP11                 | up | 2.730 | 1.449 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P379526   | 2.729 | 1.448 |  | GTPBP2                | up | 2.729 | 1.448 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_32_P181440   | 2.729 | 1.448 |  | LOC344682             | up | 2.729 | 1.448 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_33_P3335147  | 2.729 | 1.448 |  | MURC                  | up | 2.729 | 1.448 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_22_P00064176 | 2.727 | 1.448 |  | LOC102725160          | up | 2.727 | 1.448 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_33_P3237905  | 2.726 | 1.447 |  |                       | up | 2.726 | 1.447 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_22_P0002420  | 2.723 | 1.445 |  |                       | up | 2.723 | 1.445 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_21_P0007843  | 2.722 | 1.445 |  | inc-HNF1A-1           | up | 2.722 | 1.445 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P205788   | 2.721 | 1.444 |  | GABPB1                | up | 2.721 | 1.444 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_33_P354565   | 2.720 | 1.444 |  | SH3GLP1               | up | 2.720 | 1.444 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_24_P317807   | 2.720 | 1.443 |  | SORBS1                | up | 2.720 | 1.443 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_19_P00321478 | 2.717 | 1.442 |  | inc-MAGCI-1           | up | 2.717 | 1.442 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_23_P19209    | 2.716 | 1.442 |  | MAFG                  | up | 2.716 | 1.442 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |
| A_22_P00004186 | 2.716 | 1.441 |  | LOC100507140          | up | 2.716 | 1.441 | up | Human RGS domain containing 1 (RGS5D1), mRNA [NM_052482]   |

|                |       |       |       |   |
|----------------|-------|-------|-------|---|
| A.22.P00006451 | 2.716 | 1.441 | 2.716 | 602469/20071 NIH-MQC.75 Homo sapiens cDNA clone IMAGE:4013303.5; mRNA sequence [BC431189]   |
| A.24.P22600    | 2.716 | 1.441 | 2.716 | Homo sapiens pregnancy specific beta-1-glycoprotein 11 (PSG11), transcript variant 1, mRNA [NM_002789]  |
| A.22.P00024972 | 2.715 | 1.441 | 2.715 | linc-GNAT2-1 [NM_009785]  |
| A.22.P00011934 | 2.715 | 1.441 | 2.715 | linc-GNAT2-1, lincRNA [linc-GNAT2-1] transcript variant 2, long non-coding RNA [NR_105950]  |
| A.22.P00000819 | 2.715 | 1.441 | 2.715 | Homo sapiens long intergenic non-protein coding RNA 929 (LINC008929), transcript variant 2, long non-coding RNA [NR_038829]                             |
| A.21.P00050011 | 2.714 | 1.440 | 2.714 | LINGpeda lincRNA (linc-MBOAT1-1), lincRNA [linc-MBOAT1-1]   |
| A.21.P00101949 | 2.714 | 1.440 | 2.714 | Homo sapiens aminopeptidase paronychia sensitive (NPEP-PS), mRNA [NM_008310]  |
| A.24.P192727   | 2.713 | 1.440 | 2.713 | Homo sapiens pleckstrin homology domain 1, protein kinase C-epsilon family W (with RHO domain) member 1 (EHRM1), transcript variant 1, mRNA [NM_014738] |
| A.24.P384029   | 2.712 | 1.439 | 2.712 | Homo sapiens N-acetyltransferase domain containing 1 (NATD1), mRNA [NM_152014]  |
| A.33.P33340015 | 2.711 | 1.439 | 2.711 | Homo sapiens ankyrin repeat domain 18E (ANKRD18E), mRNA [NM_001244732]  |
| A.22.P00136974 | 2.711 | 1.439 | 2.711 | BX108291 Soares breast 2NhhBst Homo sapiens cDNA clone IMAGE:398813228; mRNA sequence [BX108291]  |
| A.22.P00000683 | 2.711 | 1.439 | 2.711 | Homo sapiens UDP-N-acetylglucosamine pyrophosphorylase 1 (UAP1), mRNA [NM_003115]   |
| A.23.P180480   | 2.711 | 1.439 | 2.711 | Homo sapiens double homebox 3 (DLX3), mRNA [NM_012148]  |
| A.23.P182527   | 2.709 | 1.438 | 2.709 | Homo sapiens transmembrane protein 125 (TMEM125), mRNA [NM_144826]  |
| A.23.P1150022  | 2.708 | 1.437 | 2.708 | LINGpeda lincRNA (linc-DAPK2-1), lincRNA [linc-DAPK2-1]   |
| A.21.P0008747  | 2.708 | 1.437 | 2.708 | Homo sapiens 5-methyltetrahydrofolate synthetase IIIA (NF53A), transcript variant 4, mRNA [NM_001186118]  |
| A.33.P33093836 | 2.708 | 1.437 | 2.708 | LINGpeda lincRNA (linc-RGS9-1), lincRNA [linc-RGS9-1]   |
| A.21.P00092924 | 2.707 | 1.437 | 2.707 | Homo sapiens calthrin, light chain B (CLTB), transcript variant 2, mRNA [NM_007897]   |
| A.22.P3226866  | 2.706 | 1.436 | 2.706 | Homo sapiens cytoskeleton associated protein 2, like pseudogenes (LOC102894793), non-coding RNA [NR_126222]   |
| A.21.P00006774 | 2.706 | 1.436 | 2.706 | PREDICTED: Homo sapiens ROP1 retrograde golgi transport homolog (S. cerevisiae) (RGP1), transcript variant X1, mRNA [XM_005716889]                      |
| A.21.P0006841  | 2.705 | 1.436 | 2.705 | Homo sapiens retinoic acid receptor, alpha (RAR), transcript variant 2, mRNA [NM_001024869]   |
| A.33.P33081611 | 2.705 | 1.436 | 2.705 | Homo sapiens HJST checkpoint homolog (S. pombe) (HJST), transcript variant 1, mRNA [NM_005607]  |
| A.24.P192914   | 2.703 | 1.434 | 2.703 | Homeodomain interacting protein kinase 2 (Source:HGNC Symbol;Acc:HGNC:14402) [ENS0000042645]  |
| A.33.P3223116  | 2.699 | 1.432 | 2.699 | Homo sapiens hypodermal LOC152225 mRNA (cDNA clone IMAGE:362407), [BC143893]  |
| A.21.P0002792  | 2.699 | 1.432 | 2.699 | Homo sapiens protein tyrosine phosphatase SH-PTPase (SH-PTP), transcript variant 1, long non-coding RNA [NR_125366]                                     |
| A.33.P3207292  | 2.698 | 1.432 | 2.698 | Homo sapiens protein tyrosine phosphatase SH-PTPase (SH-PTP), transcript variant 1, long non-coding RNA [NR_125366]                                     |
| A.21.P00002223 | 2.697 | 1.431 | 2.697 | Homo sapiens uncharacterized LOC101927056 (LOC101927056), transcript variant 1, long non-coding RNA [NR_125366]   |
| A.21.P00077223 | 2.697 | 1.431 | 2.697 | Homo sapiens uncharacterized LOC101927056 (LOC101927056), transcript variant 1, long non-coding RNA [NR_125366]   |
| A.23.P42614    | 2.686 | 1.431 | 2.686 | Homo sapiens elav-like domain, family A, member 2 (PDLAD2), mRNA [NM_003311]  |
| A.23.P4953216  | 2.686 | 1.431 | 2.686 | Homo sapiens SMAD specific E3 ubiquitin protein ligase 1, member 2 (PDLAD2), mRNA [NM_003311]   |
| A.23.P193388   | 2.685 | 1.430 | 2.685 | Homo sapiens GULP, engulfment adaptor PTB domain containing 1 (GULP1), transcript variant 1, mRNA [NM_024292]   |
| A.23.P192443   | 2.684 | 1.430 | 2.684 | Homo sapiens histone cluster 1, H1c (H1C), mRNA [NM_005319]   |
| A.22.P00018241 | 2.684 | 1.430 | 2.684 | Homo sapiens uncharacterized LOC101927905 (LOC101927905), transcript variant 1, long non-coding RNA [NR_120454]   |
| A.33.P3257988  | 2.684 | 1.430 | 2.684 | Homo sapiens Fanconi anemia, complementation group D2 (FANCD2), transcript variant 2, mRNA [NM_001018115]   |
| A.23.P24275    | 2.684 | 1.430 | 2.684 | Homo sapiens ID2 antisense RNA 1 (ID2-AS1), transcript variant 4, long non-coding RNA [NR_027709]   |
| A.21.P0007086  | 2.683 | 1.429 | 2.683 | LINGpeda lincRNA (linc-C10orf31-10), lincRNA [linc-C10orf31-10]   |
| A.33.P436120   | 2.683 | 1.429 | 2.683 | Homo sapiens intracellular carcinoma downregulator 1 (ICD1), mRNA [NM_001037558]  |
| A.23.P413855   | 2.683 | 1.429 | 2.683 | Homo sapiens uncharacterized repeat containing 49 (RRC49), mRNA [NM_001036437]  |
| A.23.P132438   | 2.682 | 1.429 | 2.682 | Homo sapiens alpha peptidease complex subunit 3 homolog (S. cerevisiae) (SPCS3), mRNA [NM_021920]   |
| A.22.P00008837 | 2.682 | 1.428 | 2.682 | Homo sapiens chromosome 12 open reading frame 80 (G2orf80), mRNA [NM_001124286]   |
| A.21.P0001320  | 2.681 | 1.428 | 2.681 | LINGpeda lincRNA (linc-FPGT-4), lincRNA [linc-FPGT-4]   |
| A.22.P00013768 | 2.680 | 1.427 | 2.680 | long intergenic non-protein coding RNA 888 [Source:HGNC Symbol;Acc:HGNC:18221]  |
| A.23.P162974   | 2.680 | 1.427 | 2.680 | Homo sapiens heat shock protein 90Da alpha (cytosolic), class A member 1 (HSP90AA1), transcript variant 2, mRNA [NM_005348]                             |
| A.24.P73577    | 2.688 | 1.427 | 2.688 | Homo sapiens aldehyde dehydrogenase 1 family, member A2 (ALDH1A2), transcript variant 3, mRNA [NM_170697]   |
| A.23.P133095   | 2.688 | 1.426 | 2.688 | Homo sapiens Rap guanine nucleotide exchange factor (GEF2) (RAPGEF2), mRNA [NM_014247]  |
| A.33.P3301010  | 2.686 | 1.425 | 2.686 | Homo sapiens Rap guanine nucleotide exchange factor 1 (SPRE1), transcript variant 1, mRNA [NM_00128828]   |
| A.21.P00000570 | 2.686 | 1.425 | 2.686 | Homo sapiens ADORA2A antisense RNA 1 (ADORA2A-AS1), transcript variant 2, long non-coding RNA [NR_028463]   |
| A.31.P0013286  | 2.684 | 1.424 | 2.684 | BROAD Institute lincRNA 31, GC12, 013737, lincRNA [TCNS12_0028416]  |
| A.21.P441437   | 2.683 | 1.424 | 2.683 | BROAD Institute lincRNA 31, GC12, 013737, lincRNA [TCNS12_0028416]  |
| A.22.P00002187 | 2.679 | 1.422 | 2.679 | FOXD1 antisense RNA 1 (Source:HGNC Symbol;Acc:HGNC:10858) [ENS0000041661]   |
| A.23.P180246   | 2.679 | 1.422 | 2.679 | Homo sapiens chromosome 1 (S. pombe) reader 1 (SCR1), transcript variant 1, mRNA [NM_005283]  |
| A.22.P00014384 | 2.679 | 1.422 | 2.679 | AGENCOURT_10402004 NIH_MQC.82 Homo sapiens cDNA clone IMAGE:6818437.5; mRNA sequence [BU588518]   |
| A.32.P156863   | 2.679 | 1.422 | 2.679 | Homo sapiens actin gamma 1 (ACTG1), transcript variant 2, mRNA [NM_00101614]  |
| A.22.P00022560 | 2.678 | 1.421 | 2.678 | Homo sapiens cDNA FLJ37814, fig. clone BRSSN202859, [AK095133]  |

|                |      |      |      |    |                        |  |
|----------------|------|------|------|----|------------------------|--|
| A_24_P06100    | 2676 | 1421 | 2678 | up | MYL6                   | Homo sapiens myosin light chain 6, alkali smooth muscle and non-muscle (MYL6), transcript variant 2, mRNA [NM_0179423]   |
| A_21_P0010381  | 2677 | 1420 | 2677 | up | XLOC12.000678          | BROAD Institute lincRNA XLOC12.000678, lincRNA [TCOONS ID: 00009043]   |
| A_23_P166567   | 2677 | 1420 | 2677 | up | SLC20A1                | Homo sapiens solute carrier family 20 (glutamate transporter), member 1 (SLC20A1), mRNA [NM_005415]  |
| A_22_P0007059  | 2676 | 1420 | 2676 | up | ADAM8                  | Homo sapiens ADAM metalloproteinase domain 8 (ADAM8), transcript variant 2, mRNA [NM_01164469]   |
| A_23_P0310483  | 2674 | 1419 | 2674 | up | OR6F58                 | Homo sapiens chromosome 8 open reading frame 58 (OR6F58), transcript variant 1, mRNA [NM_00103842]   |
| A_21_P0015571  | 2674 | 1419 | 2674 | up | inc-N19523-1           | AF160476 CDY4-like precursor, FELL [Homo sapiens] (exp=1, wgs=3, gff=0, partial) (5S) [HG251875]   |
| A_33_P3305856  | 2673 | 1418 | 2673 | up | PRO39                  | Homo sapiens fibronectin type III domain containing 3 (FNDC3), mRNA [NM_001013430]   |
| A_21_P0015572  | 2673 | 1418 | 2673 | up | OR6F57                 | Homo sapiens chromosome 8 open reading frame 57 (OR6F57), transcript variant 1, mRNA [NM_00103843]   |
| A_21_P0015573  | 2672 | 1418 | 2672 | up | OR6F56                 | Homo sapiens chromosome 8 open reading frame 56 (OR6F56), transcript variant 1, mRNA [NM_00103844]   |
| A_33_P3230378  | 2672 | 1418 | 2672 | up | CNTN6                  | Homo sapiens contactin 6 (CNTN6), transcript variant 1, mRNA [NM_0144481]  |
| A_23_P312173   | 2671 | 1418 | 2671 | up | AMPH                   | Homo sapiens amphiphysin (AMPH), transcript variant 1, mRNA [NM_0016185]   |
| A_22_P0002462  | 2671 | 1418 | 2671 | up | inc-GTD-2617M22.14.1-1 | DA623988 KIDNE2 Homo sapiens cDNA clone KIDNE2006132.5, mRNA sequence [DA623988]   |
| A_33_P023105   | 2671 | 1418 | 2671 | up | MIL14                  | Homo sapiens myeloid/lymphoid or mixed-lineage leukemia (criticbax homolog, Drosophila), transcribed l.s. 4 (MIL14), transcript variant 1, mRNA [NM_001200088]   |
| A_22_P0010835  | 2671 | 1417 | 2671 | up | ARHGAP5-AS1            | Homo sapiens mRNA, cDNA DKF333N076 (from clone DKF333N076), [BX557873]   |
| A_33_P304862   | 2671 | 1417 | 2671 | up | ARHGAP5                | Homo sapiens ARHGAP5 antisense RNA 1 (head to head) (ARHGAP5-AS1), long non-coding RNA [NR_027285]   |
| A_21_P0004755  | 2671 | 1417 | 2671 | up | FOXN2                  | Homo sapiens forkhead box N2 (FOXN2), mRNA [NM_0021158]  |
| A_21_P0013345  | 2670 | 1417 | 2670 | up | XLOC12.013863          | BROAD Institute lincRNA XLOC12.013863, lincRNA [TCOONS ID: 00208645]   |
| A_23_P203658   | 2669 | 1416 | 2669 | up | PICALM                 | Homo sapiens phosphatidylinositol binding clathrin assembly protein (PICALM), transcript variant 1, mRNA [NM_0017160]  |
| A_22_P0012879  | 2669 | 1416 | 2669 | up | inc-ORF1-1             | Homo sapiens cDNA FL43742 flc, clone FES12018838, [AK129730]   |
| A_22_P0002281  | 2669 | 1416 | 2669 | up | IRF2                   | Homo sapiens toll-like receptor 7 (TLR7), transcript variant 2, mRNA [NM_023294]   |
| A_22_P0002282  | 2668 | 1416 | 2668 | up | inc-ORF49-1            | Homo sapiens toll-like receptor 7 (TLR7), transcript variant 2, mRNA [NM_023294]   |
| A_24_P194081   | 2668 | 1416 | 2668 | up | FXYD5                  | Homo sapiens FYD domain containing, ion transporter regulator 5 (FXYD5), transcript variant 1, mRNA [NM_144770]  |
| A_21_P0009735  | 2668 | 1416 | 2668 | up | LOG102724311           | PREDICED: Homo sapiens uncharacterized LOC102724311 (LOC102724311), mRNA [XR_430169]   |
| A_33_P3301826  | 2667 | 1415 | 2667 | up | GHRL                   | Homo sapiens growth hormone releasing hormone (GHRL), transcript variant 1, mRNA [NM_021081]   |
| A_21_P0011009  | 2666 | 1415 | 2666 | up | BROAD                  | BROAD Institute lincRNA XLOC12.002851, lincRNA [TCOONS ID: 00005005]   |
| A_22_P0000284  | 2666 | 1415 | 2666 | up | inc-ORF27-2            | AGENCOURT_1389223 NIH MGC_148 Homo sapiens cDNA clone IMAGE3037809.5, mRNA sequence [CB861678]   |
| A_33_P3078886  | 2665 | 1414 | 2665 | up | FGF2                   | Homo sapiens fibroblast growth factor 2 (basic) (FGF2), mRNA [NM_002006]   |
| A_33_P306102   | 2664 | 1414 | 2664 | up | KHL7                   | Homo sapiens ketch-like family member 7 (KHL7), transcript variant 3, mRNA [NM_001172458]  |
| A_33_P3030506  | 2664 | 1413 | 2664 | up | SEBOX                  | Homo sapiens SEBOX homeobox (SEBOX), mRNA [NM_001090837]   |
| A_21_P0009659  | 2663 | 1413 | 2663 | up | inc-SAFB-1             | LINGGedia lincRNA (inc-SAFB-1), lincRNA [inc-SAFB-1]   |
| A_23_P139912   | 2663 | 1413 | 2663 | up | IGFBP6                 | Homo sapiens insulin-like growth factor binding protein 6 (IGFBP6), mRNA [NM_002178]   |
| A_22_P0002152  | 2661 | 1412 | 2661 | up | inc-LEO1-2             | LINGGedia lincRNA (inc-LEO1-2), lincRNA [inc-LEO1-2]   |
| A_22_P0000962  | 2660 | 1412 | 2660 | up | NEAT1                  | Homo sapiens nuclear paraspeckle assembly transcript 1 (non-protein coding) (NEAT1), long non-coding RNA [NR_026287] (bovine antigen-related cell adhesion molecule 7 (CEACAM7), transcript variant 1, mRNA [NM_008880]) |
| A_19_P0032132  | 2657 | 1410 | 2657 | up | CEACAM7                | Homo sapiens nuclear paraspeckle assembly transcript 1 (non-protein coding) (NEAT1), long non-coding RNA [NR_026287] (bovine antigen-related cell adhesion molecule 7 (CEACAM7), transcript variant 1, mRNA [NM_008880]) |
| A_33_P325484   | 2655 | 1409 | 2655 | up | GLS                    | Homo sapiens glutamine synthetase (GLS), transcript variant 2, mRNA [NM_001296310]   |
| A_33_P3281373  | 2655 | 1409 | 2655 | up | STXBP1                 | Homo sapiens syntaxin binding protein 1 (STXBP1), transcript variant 1, mRNA [NM_003165]   |
| A_33_P3267568  | 2654 | 1408 | 2654 | up | PDAX                   | Homo sapiens pyridoxal pyridoxamine vitamin B6 kinase (PDAX), mRNA [NM_0030881]  |
| A_24_P20117    | 2654 | 1408 | 2654 | up | SYMPDL                 | Homo sapiens synaptophysin 2-like (SYMPDL), transcript variant 1, mRNA [NM_001114133]  |
| A_33_P344867   | 2651 | 1407 | 2651 | up | CTH                    | Homo sapiens cytochrome gamma-haem (CTH), transcript variant 1, mRNA [NM_0011922]  |
| A_23_P126103   | 2650 | 1406 | 2650 | up | KRTAP10-12             | Homo sapiens keratin associated protein 10-12 (KRTAP10-12), mRNA [NM_198899]   |
| A_33_P339120   | 2649 | 1405 | 2649 | up | BAMBI                  | Homo sapiens BMP and activin membrane bound inhibitor (BAMBI), mRNA [NM_012342]  |
| A_23_P32207    | 2649 | 1405 | 2649 | up | inc-LEO1-2             | BX17927 Soares, NFL_T, GBC S1 Homo sapiens cDNA clone IMAGE6988 (13901), mRNA sequence [BX17927]   |
| A_22_P00020719 | 2648 | 1405 | 2648 | up | WIP2                   | Homo sapiens WD repeat domain, phosphoinositide interacting 2 (WIP2), transcript variant 3, mRNA [NM_001039518]  |
| A_33_P305607   | 2647 | 1404 | 2647 | up | NMT2                   | Homo sapiens N-methyltransferase 2 (NMT2), mRNA [NM_004608]  |
| A_33_P327563   | 2645 | 1403 | 2645 | up | inc-ORF1-1             | AG29334.1 Soares, testis, NHT Homo sapiens cDNA clone 1293173.3, mRNA sequence [AG29334.1]   |
| A_21_P0017288  | 2643 | 1402 | 2643 | up | ASB10                  | Homo sapiens alpha-lysin repeat and SOCS box containing 10 (ASB10), transcript variant 1, mRNA [NM_001143450]  |
| A_22_P0002288  | 2642 | 1401 | 2642 | up | XLOC12.010759          | BROAD Institute lincRNA XLOC12.010759, lincRNA [TCOONS ID: 00206852]   |
| A_33_P3290124  | 2642 | 1401 | 2642 | up | API3S                  | Homo sapiens adaptor-related protein complex 1, sigma 3 subunit (API3S), transcript variant 1, mRNA [NM_001039598]   |
| A_21_P0012602  | 2641 | 1401 | 2641 | up | AP1S3                  | Homo sapiens adaptor-related protein complex 1, sigma 3 subunit (AP1S3), transcript variant 1, mRNA [NM_001039598]   |
| A_33_P3289005  | 2641 | 1401 | 2641 | up | JADE2                  | PREDICED: Homo sapiens uncharacterized LOC100653296 (LOC100653296), misc RNA [XR_424298]   |
| A_33_P334789   | 2640 | 1401 | 2640 | up | JADE2                  | Homo sapiens jade family PHD finger 2 (JADE2), transcript variant 3, mRNA [NM_015288]  |
| A_24_P26278    | 2640 | 1401 | 2640 | up | RFY3                   | Homo sapiens regulatory factor X 3 (influxes HLA class II expression) (RFY3), transcript variant 2, mRNA [NM_134428]   |
| A_23_P9288     | 2640 | 1400 | 2640 | up | UBE2S                  | Homo sapiens ubiquitin-conjugating enzyme E2S (UBE2S), mRNA [NM_014601]  |
| A_32_P171928   | 2639 | 1400 | 2639 | up | inc-TTC21A-2           | LINGGedia lincRNA (inc-TTC21A-2), lincRNA [inc-TTC21A-2]   |
| A_21_P0002945  | 2639 | 1400 | 2639 | up | SLC33A1                | Homo sapiens solute carrier family 31 (copper transporter), member 1 (SLC33A1), mRNA [NM_001859]   |
| A_33_P342626   | 2639 | 1399 | 2639 | up | RG12                   | Homo sapiens rat guanine nucleotide dissociation stimulator-like 2 (RG12), transcript variant 1, mRNA [NM_004761]  |
| A_23_P30383    | 2638 | 1399 | 2638 | up | ACOX1                  | Homo sapiens acyl-CoA oxidase-like (ACOX1), mRNA [NM_001142807]  |
| A_33_P3305209  | 2638 | 1398 | 2638 | up | inc-MAPK6-1            | LINGGedia lincRNA (inc-MAPK6-1), lincRNA [inc-MAPK6-1]   |
| A_33_P3426018  | 2637 | 1397 | 2637 | up | ADAMTS4                | ADAM metalloproteinases with thrombospondin type 1 motif 4 [Source:HGNC Symbol;Acc:HGNC:220] [ENS:0000607965]  |
| A_24_P128163   | 2632 | 1386 | 2632 | up | CALHM3                 | Homo sapiens calcium homeostasis modulator 3 (CALHM3), mRNA [NM_001123242]   |
| A_33_P3241204  | 2630 | 1385 | 2630 | up | CD34                   | Homo sapiens cell division cycle 34 (CD34), mRNA [NM_004359]   |
| A_23_P164069   | 2630 | 1385 | 2630 | up | LOG102723781           | PREDICED: Homo sapiens uncharacterized LOC102723781 (LOC102723781), mRNA [XR_428212]   |
| A_21_P0005385  | 2629 | 1385 | 2629 | up | inc-CGAL1-2            | tt17a11.x1, NCI, CGAP G06 Homo sapiens cDNA clone IMAGE2241068.3, mRNA sequence [AB98576]  |
| A_22_P00024619 | 2629 | 1385 | 2629 | up | inc-CGAL1-2            | tt17a11.x1, NCI, CGAP G06 Homo sapiens cDNA clone IMAGE2241068.3, mRNA sequence [AB98576]  |

|                |       |       |       |                |   |
|----------------|-------|-------|-------|----------------|---|
| A_24_P36607    | 2.929 | 1.394 | 2.929 | SERTM1         | Homo sapiens serine-rich and transmembrane domain containing 1 [SERTM1], mRNA [NM_203451]   |
| A_24_P7320     | 2.628 | 1.394 | 2.628 | MAGI1          | Homo sapiens membrane associated guanylate kinase, WW and PDZ domain containing 1 (MAGI1), transcript variant 2, mRNA [NM_004742]                                     |
| A_22_P00024689 | 2.628 | 1.394 | 2.628 | MALAT1         | Homo sapiens metastasis associated lung adenocarcinoma transcript 1 (non-protein coding) (MALAT1), long non-coding RNA [NR_002819]                                    |
| A_23_P340754   | 2.926 | 1.393 | 2.926 | ORFY4P         | Homo sapiens orfatory receptor, family 7, subfamily E, member 14 pseudogene (ORFY4P), non-coding RNA [NR_045029]  |
| A_23_P315206   | 2.925 | 1.392 | 2.925 | COBL1          | Homo sapiens coiled-coil beta lyase, cytoplasmic (COBL1), transcript variant 1, mRNA [NM_004959]  |
| A_24_P367242   | 2.625 | 1.392 | 2.625 | RYR1P19-1      | Homo sapiens ryanodine receptor type 1 (RYR1P19-1), mRNA [NM_181607]  |
| A_24_P216253   | 2.623 | 1.391 | 2.623 | DLGAP4         | Homo sapiens discs large (Drosophila) homolog-associated protein 4 (DLGAP4), transcript variant 1, mRNA [NM_014923]   |
| A_23_P1402     | 2.623 | 1.391 | 2.623 | AVP1           | Homo sapiens vesicle-associated protein 1 (AVP1), mRNA [NM_021732]  |
| A_22_P3370569  | 2.622 | 1.391 | 2.622 | ncRNA-IPAGT4-1 | Homo sapiens cDNA EL13845, fig. clone: HY91000815, [AK023807]   |
| A_23_P320021   | 2.622 | 1.391 | 2.622 | BTNA1          | Homo sapiens butyrophilin subfamily 1, member A1 (BTNA1), mRNA [NM_001732]  |
| A_23_P24372    | 2.621 | 1.390 | 2.621 | TULP1          | Homo sapiens tubule like protein 1 (TULP1), transcript variant 1, mRNA [NM_033322]  |
| A_21_P0011684  | 2.621 | 1.390 | 2.621 | XL0C12.006865  | BROAD Institute lincRNA, XL0C12.006865, lincRNA [CONSL2_00012418]   |
| A_23_P212069   | 2.621 | 1.390 | 2.621 | NFB2Z          | Homo sapiens nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, zeta (NFKB2Z), transcript variant 1, mRNA [NM_031419]                      |
| A_21_P0012327  | 2.621 | 1.390 | 2.621 | LSMEM1         | Homo sapiens leucine-rich single-pass membrane protein 1 (LSMEM1), transcript variant 1, mRNA [NM_182597]   |
| A_24_P360679   | 2.621 | 1.390 | 2.621 | KALRN          | Homo sapiens cDNA FLJ43981, fig. clone: TEST14019843, highly similar to Rctus norvegicus huntingtin-associated protein interacting protein, (duo) (Haplo), [AK128979] |
| A_24_P410797   | 2.619 | 1.389 | 2.619 | DAPK1          | Homo sapiens death-associated protein kinase 1 (DAPK1), transcript variant 1, mRNA [NM_004938]  |
| A_33_P3272504  | 2.617 | 1.389 | 2.617 | TC1D28         | Homo sapiens TC1 domain family, member 28 (TC1D28), mRNA [NM_178171]  |
| A_24_P160394   | 2.616 | 1.388 | 2.616 | TC1D29         | Homo sapiens TC1 domain family, member 29 (TC1D29), mRNA [NM_178171]  |
| A_23_P325304   | 2.616 | 1.387 | 2.616 | PSN2           | Homo sapiens presenilin 2 (PSN2), transcript variant 1, mRNA [NM_009447]  |
| A_23_P103388   | 2.616 | 1.387 | 2.616 | ANTXR2         | Homo sapiens anthrax toxin receptor 2 (ANTXR2), transcript variant 1, mRNA [NM_038172]  |
| A_24_P345456   | 2.616 | 1.387 | 2.616 | FNHL1          | Homo sapiens formin-like 1 (FNHL1), mRNA [NM_056892]  |
| A_33_P348233   | 2.616 | 1.387 | 2.616 | CHST13         | Homo sapiens carbohydrate (chondroitin 4) sulfotransferase, 13 (CHST13), mRNA [NM_152888]   |
| A_23_P08473    | 2.614 | 1.386 | 2.614 | PPP2CA         | Homo sapiens protein phosphatase 2, catalytic subunit, alpha isoform (PPP2CA), mRNA [NM_002715]   |
| A_21_P122941   | 2.614 | 1.386 | 2.614 | PHKA1          | Homo sapiens phosphatase kinase, alpha 1 (muscle) (PHKA1), transcript variant 1, mRNA [NM_002637]   |
| A_24_P194603   | 2.614 | 1.386 | 2.614 | PHKA1          | Homo sapiens phosphatase kinase, alpha 1 (muscle) (PHKA1), transcript variant 1, mRNA [NM_002637]   |
| A_22_P00012693 | 2.613 | 1.386 | 2.613 | FAH2GA         | family with sequence similarity 204, member A [Source:HGNC Symbol;Acc:HGNC:23794] [ENS100000482292]   |
| A_21_P0008531  | 2.612 | 1.385 | 2.612 | nc-MBP1-2      | LINCeRNA lincRNA, (nc-MBP1-2), lincRNA [nc-MBP1-2]  |
| A_22_P00019433 | 2.612 | 1.385 | 2.612 | nc-SLC16A3-5   | LINCeRNA lincRNA, (nc-SLC16A3-5), lincRNA [nc-SLC16A3-5]  |
| A_22_P00002829 | 2.612 | 1.385 | 2.612 | nc-IR2BP2-3    | LINCeRNA lincRNA, (nc-IR2BP2-3), lincRNA [nc-IR2BP2-3]  |
| A_23_P389254   | 2.612 | 1.385 | 2.612 | HIP1R          | Homo sapiens hantavirus interacting protein 1 related (HIP1R), transcript variant 1, mRNA [NM_003959]   |
| A_33_P338462   | 2.611 | 1.384 | 2.611 | THSD4          | Homo sapiens thrombospondin, type 1 domain containing 4 (THSD4), transcript variant 1, mRNA [NM_024817]   |
| A_33_P333091   | 2.610 | 1.384 | 2.610 | BCAS1          | Homo sapiens breast carcinoma amplified sequence 1 (BCAS1), mRNA [NM_033657]  |
| A_21_P0010171  | 2.609 | 1.384 | 2.609 | TC1D12         | Homo sapiens TC1 domain family, member 2 (TC1D12), transcript variant 1, mRNA [NM_0126757]  |
| A_33_P321292   | 2.609 | 1.383 | 2.609 | MAKRA          | Homo sapiens N-acylglucosaminidase, alpha- (MAKRA), mRNA [NM_000282]  |
| A_33_P334944   | 2.609 | 1.383 | 2.609 | SCYL2          | Homo sapiens SCYL-like 2 (S. cerevisiae) (SCYL2), mRNA [NM_017888]  |
| A_33_P333372   | 2.607 | 1.382 | 2.607 | SCD5           | Homo sapiens stearoyl-CoA desaturase 5 (SCD5), transcript variant 2, mRNA [NM_024906]   |
| A_33_P325960   | 2.606 | 1.382 | 2.606 | MYO1D          | Homo sapiens myosin 1D (MYO1D), transcript variant 1, mRNA [NM_016194]  |
| A_24_P119609   | 2.606 | 1.382 | 2.606 | nc-GABRE-1     | PREDICIED: Homo sapiens uncharacterized LOC100907198, transcript variant 1, (LOC100607199), miscRNA [XR_133585]   |
| A_30_P3407963  | 2.606 | 1.382 | 2.606 | nc-GABRE-1     | Homo sapiens LMCD1 antisense RNA 1 (head to head) (LMCD1-AS1), long non-coding RNA [NR_033278]  |
| A_19_P00608088 | 2.605 | 1.381 | 2.605 | LMOD1-AS1      | Homo sapiens LMOD1 antisense RNA 1 (head to head) (LMOD1-AS1), long non-coding RNA [NR_033278]  |
| A_23_P988731   | 2.604 | 1.381 | 2.604 | RAV51          | Homo sapiens RAV51 recombinase (RAV51), transcript variant 1, mRNA [NM_002875]  |
| A_33_P3233010  | 2.604 | 1.381 | 2.604 | KR3DL2         | Homo sapiens killer cell immunoglobulin-like receptor, three domains, long cytoplasmic tail, 2 (KR3DL2), transcript variant 2, mRNA [NM_001249867]                    |
| A_23_P21560    | 2.603 | 1.380 | 2.603 | FAM49A         | Homo sapiens family with sequence similarity 49, member A (FAM49A), mRNA [NM_007977]  |
| A_33_P339338   | 2.601 | 1.379 | 2.601 | PRM1L          | Homo sapiens primate-like (PRM1L), mRNA [NM_203600]   |
| A_23_P297171   | 2.601 | 1.379 | 2.601 | PRKTC1         | Homo sapiens alpha-keto reductase family 1, member C1 (PRKTC1), mRNA [NM_001393]  |
| A_23_P321286   | 2.600 | 1.379 | 2.600 | DUSP14         | Homo sapiens dual specificity phosphatase 14 (DUSP14), mRNA [NM_037926]   |
| A_32_P53828    | 2.600 | 1.378 | 2.600 | DSG4           | Homo sapiens desmoglein 4 (DSG4), transcript variant 2, mRNA [NM_173988]  |
| A_24_P202240   | 2.599 | 1.378 | 2.599 | SIRPB2         | Homo sapiens signal regulatory protein beta 2 (SIRPB2), transcript variant 1, mRNA [NM_001122982]   |
| A_22_P00022843 | 2.598 | 1.377 | 2.598 | STGAL6-AS1     | Homo sapiens STGAL6 antisense RNA 1 (STGAL6-AS1), long non-coding RNA [NR_046888]   |
| A_23_P49145    | 2.598 | 1.377 | 2.598 | ZG16           | Homo sapiens zyxogen granule protein 16 (ZG16), mRNA [NM_192348]  |
| A_21_P00107650 | 2.597 | 1.377 | 2.597 | LOC102725199   | LOC102725199  |
| A_30_P3215720  | 2.597 | 1.377 | 2.597 | PPP1R2         | Homo sapiens protein phosphatase 1, regulatory (inhibitor) subunit 2 (ppp1r2), transcript variant 1, mRNA [NM_001291504]  |
| A_21_P0003403  | 2.596 | 1.376 | 2.596 | PHKA1          | BX117354: Homo sapiens cDNA clone IMAGe988M104015, mRNA sequence [BX117354]   |
| A_24_P238543   | 2.596 | 1.376 | 2.596 | PHKA1          | Homo sapiens phosphatase kinase, alpha 1 (muscle) (PHKA1), transcript variant 1, mRNA [NM_002637]   |
| A_33_P352225   | 2.595 | 1.376 | 2.595 | GRPEL1         | Homo sapiens GRP-E like 1, mitochondrial (E. coli) (GRPEL1), mRNA [NM_025196]   |
| A_21_P0000624  | 2.594 | 1.375 | 2.594 | LOC28593       | Homo sapiens uncharacterized LOC28593 (LOC28593), transcript variant 2, long non-coding RNA [NR_027108]   |
| A_33_P3373360  | 2.594 | 1.375 | 2.594 | GRP95          | Homo sapiens G protein-coupled receptor 35 (GRP95), transcript variant 2, mRNA [NM_0013933]   |
| A_33_P3387352  | 2.594 | 1.375 | 2.594 | NEK6           | Homo sapiens Nek family complex, class 1 V (pandemonium) [Source:HGNC Symbol;Acc:HGNC:23462] [ENS100001519]   |
| A_33_P3216517  | 2.594 | 1.375 | 2.594 | NEK6           | Homo sapiens related (133346), fig. clone: TST02888, [AK088865]   |
| A_22_P00208616 | 2.593 | 1.375 | 2.593 | ncRNA-FA8-1    | Homo sapiens cDNA FL129299, fig. clone: TST02888, [AK088865]  |
| A_22_P0007663  | 2.593 | 1.375 | 2.593 | PREDICIED      | Homo sapiens uncharacterized LOC102723840, lincRNA [XR_424604]  |
| A_21_P0012820  | 2.593 | 1.374 | 2.593 | LOC1345951     | PREDICIED: Homo sapiens uncharacterized LOC1345951, transcript variant X2, miscRNA [XR_244736]  |
| A_23_P401076   | 2.592 | 1.374 | 2.592 | SUSD3          | Homo sapiens sushi domain containing 3 (SUSD3), transcript variant 1, mRNA [NM_145006]  |

|                 |       |       |       |    |   |
|-----------------|-------|-------|-------|----|---|
| A.24.P176013    | 2.562 | 1.374 | 2.592 | up | family with sequence similarity 138, member B, pseudogene [Source:HGNC Symbol;Acc:HGNC:21110] [ENST00000428729]                       |
| A.33.P3213066   | 2.592 | 1.374 | 2.592 | up | ankyrin repeat domain 20 family, member A3, pseudogene [Source:HGNC Symbol;Acc:HGNC:33833] [ENST00000577814]                          |
| A.23.P212728    | 2.591 | 1.374 | 2.591 | up | Homo sapiens TBC1 domain family, member 23 (TBC1D23), transcript variant 1, mRNA [NM_001191198]                                       |
| A.22.P00010509  | 2.591 | 1.374 | 2.591 | up | LINCp24 lincRNA (linc-NBPF24-4), lincRNA [linc-NBPF24-4]  |
| A.23.P117179    | 2.591 | 1.374 | 2.591 | up | Homo sapiens zinc finger and BTB domain containing 7B (ZBTB7B), transcript variant 3, mRNA [NM_001292406]                             |
| A.21.P0014650   | 2.591 | 1.373 | 2.591 | up | smadolin [Source:HGNC Symbol;Acc:HGNC:11126] [ENST00000564593]  |
| A.33.P3305891   | 2.590 | 1.373 | 2.590 | up | Homo sapiens cytochrome vasoregulator 1 (CYPR1), mRNA [NM_001141161]  |
| A.23.P303679    | 2.590 | 1.373 | 2.590 | up | Homo sapiens cytochrome vasoregulator 1 (CYPR1), transcript variant 1, mRNA [NM_001141161]  |
| A.24.P306083    | 2.589 | 1.373 | 2.589 | up | cytochrome vasoregulator 1 (CYPR1), mRNA (linc-14144)   |
| A.33.P3271051   | 2.589 | 1.372 | 2.589 | up | Homo sapiens cytochrome vasoregulator 1 (CYPR1), transcript variant 1, member 1 [Source:HGNC Symbol;Acc:HGNC:10711] [ENST00000374068] |
| A.23.P2021061   | 2.589 | 1.372 | 2.589 | up | Homo sapiens cytochrome vasoregulator 1 (CYPR1), transcript variant 1, member 1 [Source:HGNC Symbol;Acc:HGNC:10711] [ENST00000374068] |
| A.23.P18939     | 2.589 | 1.372 | 2.589 | up | Homo sapiens RAS p21 protein activator (GTPase activating protein) 1 (RASA1), transcript variant 1, mRNA [NM_002890]                  |
| A.22.P000146816 | 2.588 | 1.372 | 2.588 | up | DBP08350, TESTA, Homo sapiens cDNA, clone TESTA011965.5, mRNA sequence [DB08350]  |
| A.32.P140386    | 2.587 | 1.371 | 2.587 | up | Homo sapiens forkhead box N2 (FOXO2), mRNA [NM_002158]  |
| A.33.P306264    | 2.587 | 1.371 | 2.587 | up | Homo sapiens LIM and senescent cell antigen-like domains 3-like (LIMS3L), transcript variant 2, non-coding RNA [NR_038099]            |
| A.22.P00010813  | 2.585 | 1.370 | 2.585 | up | Homo sapiens SMG7 antisense RNA 1 (SMG7-AS1), long non-coding RNA [NR_040083]   |
| A.33.P306781    | 2.585 | 1.370 | 2.585 | up | SMG7-AS1  |
| A.21.P0001115   | 2.584 | 1.369 | 2.584 | up | KLHL36  |
| A.33.P330057    | 2.582 | 1.369 | 2.582 | up | LINCp210 lincRNA (linc-MYO16-1), lincRNA [linc-MYO16-1]   |
| A.23.P420210    | 2.582 | 1.368 | 2.582 | up | TM6SF1  |
| A.21.P0000489   | 2.581 | 1.368 | 2.581 | up | LINCp210 lincRNA (linc-MYO16-1), lincRNA [linc-MYO16-1]   |
| A.23.P301338    | 2.580 | 1.368 | 2.580 | up | TM6SF1  |
| A.24.P282245    | 2.580 | 1.368 | 2.580 | up | LINCp210 lincRNA (linc-MYO16-1), lincRNA [linc-MYO16-1]   |
| A.23.P401861    | 2.580 | 1.368 | 2.580 | up | TM6SF1  |
| A.33.P3311371   | 2.580 | 1.367 | 2.580 | up | TM6SF1  |
| A.24.P182404    | 2.580 | 1.367 | 2.580 | up | TM6SF1  |
| A.33.P3322460   | 2.580 | 1.367 | 2.580 | up | TM6SF1  |
| A.23.P216196    | 2.578 | 1.366 | 2.578 | up | SVBP1   |
| A.22.P00017143  | 2.578 | 1.366 | 2.578 | up | SVBP1   |
| A.21.P0012457   | 2.577 | 1.366 | 2.577 | up | XLOC12.0100330  |
| A.21.P0011074   | 2.576 | 1.365 | 2.576 | up | BROAD Institute lincRNA (XLOC12.003253), lincRNA [XLOC12.003253]  |
| A.21.P0010057   | 2.576 | 1.365 | 2.576 | up | LINCp210 lincRNA (linc-FAM65C-2), lincRNA [linc-FAM65C-2]   |
| A.23.P138188    | 2.574 | 1.364 | 2.574 | up | CHN3  |
| A.23.P54088     | 2.572 | 1.363 | 2.572 | up | ORXK17  |
| A.23.P253582    | 2.572 | 1.363 | 2.572 | up | ORXK17  |
| A.33.P302657    | 2.572 | 1.363 | 2.572 | up | ORXK17  |
| A.23.P253582    | 2.572 | 1.363 | 2.572 | up | ORXK17  |
| A.33.P302657    | 2.571 | 1.362 | 2.571 | up | ORXK17  |
| A.23.P253582    | 2.571 | 1.362 | 2.571 | up | ORXK17  |
| A.23.P415538    | 2.571 | 1.362 | 2.571 | up | ORXK17  |
| A.23.P134100    | 2.570 | 1.362 | 2.570 | up | ULBP3   |
| A.33.P2948326   | 2.569 | 1.361 | 2.569 | up | EPH4L5  |
| A.22.P00013673  | 2.569 | 1.361 | 2.569 | up | UT-HF-ES0-wz-cp-0-Utr1 NIH.MGC.213 Homo sapiens cDNA clone IMAGE30561867.5, mRNA sequence [CF29872]                                   |
| A.33.P3310377   | 2.568 | 1.361 | 2.568 | up | OR2E11  |
| A.23.P308989    | 2.568 | 1.361 | 2.568 | up | OR2E11  |
| A.33.P3278971   | 2.568 | 1.360 | 2.568 | up | TMEM158   |
| A.33.P3214466   | 2.567 | 1.360 | 2.567 | up | MESP1   |
| A.33.P3338423   | 2.567 | 1.360 | 2.567 | up | SPRY4   |
| A.22.P00004183  | 2.567 | 1.360 | 2.567 | up | SPRY4   |
| A.33.P3408722   | 2.567 | 1.360 | 2.567 | up | FAM219A   |
| A.23.P145658    | 2.565 | 1.359 | 2.565 | up | ABGD1   |
| A.22.P0008247   | 2.565 | 1.359 | 2.565 | up | LINCp210 lincRNA (linc-UBA1937-2), lincRNA [linc-UBA1937-2]   |
| A.33.P327128    | 2.565 | 1.359 | 2.565 | up | LOC1730102  |
| A.33.P3228807   | 2.565 | 1.359 | 2.565 | up | SPFG  |
| A.23.P213620    | 2.564 | 1.358 | 2.564 | up | PP2R2B  |
| A.33.P343872    | 2.563 | 1.358 | 2.563 | up | SIRP2   |
| A.33.P330228    | 2.562 | 1.358 | 2.562 | up | HDC9  |
| A.21.P0001462   | 2.560 | 1.356 | 2.560 | up | linc-PP1D-1   |
| A.33.P3320493   | 2.559 | 1.356 | 2.559 | up | RAI1  |
| A.23.P160337    | 2.559 | 1.356 | 2.559 | up | AUNIP   |
| A.24.P329487    | 2.559 | 1.355 | 2.559 | up | FAM84B  |
| A.33.P340689    | 2.559 | 1.355 | 2.559 | up | scrobinin 2 [Source:HGNC Symbol;Acc:HGNC:16892] [ENST0000020729]  |
| A.24.P201133    | 2.559 | 1.355 | 2.559 | up | LINCp210 lincRNA (linc-PP1D-1), lincRNA [linc-PP1D-1]   |
| A.21.P0000551   | 2.557 | 1.355 | 2.557 | up | linc-R12-1  |
| A.22.P0002616   | 2.557 | 1.354 | 2.557 | up | BRX14071 [Source:Ensembl;Acc:Ensembl;Acc:Ensembl] [ENST0000020729]  |
| A.22.P0002616   | 2.555 | 1.354 | 2.555 | up | PREDICED: Homo sapiens uncharacterized LOC101927480, LOC101927480, mRNA [XR_244728]   |
| A.33.P3203558   | 2.555 | 1.353 | 2.555 | up | Homo sapiens actin filament associated protein like 5 (EAL5), mRNA [NM_18387]   |
| A.23.P16110     | 2.555 | 1.353 | 2.555 | up | Homo sapiens olfactory receptor, family 2, subfamily E, member 24 (OR7E24), mRNA [NM_001079935]                                       |
| A.24.P233488    | 2.554 | 1.353 | 2.554 | up | Homo sapiens leukemia inhibitory factor (LIF), transcript variant 1, mRNA [NM_0023209]  |

|                 |       |       |       |    |   |
|-----------------|-------|-------|-------|----|---|
| A.22.P00003666  | 2.554 | 1.353 | 2.554 | up | LINCpadi1 lincRNA (linc-KAI1467-1), lincRNA (linc-KAI1467-1)  |
| A.21.P0001295   | 2.552 | 1.352 | 2.552 | up | linc-KAI1467-1  |
| A.22.P00019633  | 2.552 | 1.352 | 2.552 | up | linc-SLMC1-1  |
| A.23.P17325     | 2.551 | 1.351 | 2.551 | up | BST1  |
| A.33.P3227664   | 2.551 | 1.351 | 2.551 | up | Homo sapiens bone marrow stromal cell antigen 1 (BST1), mRNA (NM_004334)  |
| A.33.P30321611  | 2.550 | 1.351 | 2.550 | up | Homo sapiens phosphatase and actin regulator 4 (PHACTR4), transcript variant 1, mRNA (NM_001048189)                       |
| A.32.P121104    | 2.550 | 1.351 | 2.550 | up | ANAPC1  |
| A.22.P0000131   | 2.550 | 1.350 | 2.550 | up | LINCpadi1 lincRNA (linc-ABHD2B-3), lincRNA (linc-ABHD2B-3)  |
| A.22.P00002624  | 2.549 | 1.350 | 2.549 | up | linc-ABHD2B-3   |
| A.23.P141484    | 2.549 | 1.350 | 2.549 | up | linc-LNG1-1   |
| A.33.P3236557   | 2.548 | 1.349 | 2.548 | up | MAPKAPK3  |
| A.33.P3060300   | 2.548 | 1.349 | 2.548 | up | Homo sapiens phosphatase and actin regulator 4 (PHACTR4), transcript variant 1, mRNA (NM_001048189)                       |
| A.33.P3076365   | 2.547 | 1.349 | 2.547 | up | Homo sapiens phosphatase and actin regulator 4 (PHACTR4), transcript variant 1, mRNA (NM_001048189)                       |
| A.21.P00000634  | 2.546 | 1.348 | 2.546 | up | HES2  |
| A.22.P00001789  | 2.546 | 1.348 | 2.546 | up | PREDICTED: Homo sapiens uncharacterized LOC102748955 (LOC102748955), mRNA (XR_430113)                                     |
| A.32.P107676    | 2.546 | 1.348 | 2.546 | up | Homo sapiens cDNA FLJ146186, clone IMAGE320065833, IAK123758  |
| A.33.P3065974   | 2.546 | 1.348 | 2.546 | up | Homo sapiens Fras1 extracellular matrix subunit 1 (FRAS1), transcript variant 1, mRNA (NM_026074)                         |
| A.23.P14988     | 2.544 | 1.347 | 2.544 | up | Homo sapiens potassium channel, voltage gated eag related subfamily H, member 4 (KCNH4), mRNA (NM_012285)                 |
| A.33.P3407256   | 2.544 | 1.347 | 2.544 | up | Homo sapiens thyroid hormone receptor interactor 13 (TRIP13), transcript variant 2, mRNA (NM_001166280)                   |
| A.24.P120115    | 2.543 | 1.346 | 2.543 | up | Homo sapiens CASP8 and FADD-like apoptosis regulator (CASP8), transcript variant 1, mRNA (NM_008719)                      |
| A.33.P3333882   | 2.543 | 1.346 | 2.543 | up | Homo sapiens phospholipase 4D interacting protein (PDE4DIP), transcript variant 3, mRNA (NM_008719)                       |
| A.33.P3251882   | 2.542 | 1.346 | 2.542 | up | Homo sapiens phospholipase 4D interacting protein (PDE4DIP), transcript variant 3, mRNA (NM_008719)                       |
| A.21.P0014235   | 2.542 | 1.346 | 2.542 | up | Homo sapiens cDNA FL132805, clone TEST120202800, AK057387   |
| A.21.P0000124   | 2.541 | 1.345 | 2.541 | up | Homo sapiens DEAF1 domain containing 1B (DENND1B), transcript variant 4, mRNA (NM_001193216)                              |
| A.23.P146066    | 2.539 | 1.345 | 2.539 | up | Homo sapiens DEAF1 domain containing 1B (DENND1B), transcript variant 4, mRNA (NM_001193216)                              |
| A.33.P3058223   | 2.538 | 1.344 | 2.538 | up | Homo sapiens chromosome 9 open reading frame 173 (C9orf173), transcript variant 1, mRNA (NM_001256899)                    |
| A.21.P0000217   | 2.536 | 1.343 | 2.536 | up | C9orf173  |
| A.21.P0012318   | 2.536 | 1.342 | 2.536 | up | LINCpadi1 lincRNA (linc-TUBGCP3-8), lincRNA (linc-TUBGCP3-8)  |
| A.21.P00000558  | 2.536 | 1.342 | 2.536 | up | LINCpadi1 lincRNA (linc-TUBGCP3-8), lincRNA (linc-TUBGCP3-8)  |
| A.33.P3287716   | 2.535 | 1.342 | 2.535 | up | Homo sapiens BRE antisense RNA 1 (BRE-AS1), long non-coding RNA (NR_106383)   |
| A.19.P00317357  | 2.534 | 1.342 | 2.534 | up | Homo sapiens BRE antisense RNA 1 (BRE-AS1), long non-coding RNA (NR_106383)   |
| A.33.P3065974   | 2.534 | 1.341 | 2.534 | up | PREDICTED: Homo sapiens uncharacterized LOC100506947 (LOC100506947), mRNA (XR_00976)                                      |
| A.33.P3280887   | 2.533 | 1.341 | 2.533 | up | Homo sapiens thyroid hormone receptor, beta (THRβ), transcript variant 4, mRNA (NM_001292654)                             |
| A.22.P00020482  | 2.533 | 1.341 | 2.533 | up | Homo sapiens thyroid hormone receptor, beta (THRβ), transcript variant 4, mRNA (NM_001292654)                             |
| A.24.P343472    | 2.531 | 1.340 | 2.531 | up | Homo sapiens EFTAX antisense RNA 1 (EFTAX-AS1), long non-coding RNA (NR_046892)   |
| A.23.P52121     | 2.531 | 1.340 | 2.531 | up | Homo sapiens nuclear receptor subfamily 1, group D, member 2 (NR1D2), transcript variant 1, mRNA (NM_008126)              |
| A.23.P180081    | 2.531 | 1.340 | 2.531 | up | Homo sapiens PRZ domain containing 1 (PRZC1), transcript variant 1, mRNA (NM_028814)                                      |
| A.33.P3082232   | 2.530 | 1.339 | 2.530 | up | Homo sapiens eukaryotic phosphodiesterase, acid-like 3B (SMPD3B), transcript variant 2, mRNA (NM_001009586)               |
| A.21.P0014842   | 2.529 | 1.339 | 2.529 | up | LINCpadi1 lincRNA (linc-CLCN3-3), lincRNA (linc-CLCN3-3)  |
| A.21.P0013174   | 2.528 | 1.338 | 2.528 | up | Homo sapiens cDNA DN17244, HSL1751 (LINC751), mRNA, complete cds (AY368705)   |
| A.23.P216610    | 2.528 | 1.338 | 2.528 | up | BROAD Institute lincRNA (LOC101155855), lincRNA (LOC101155855)  |
| A.23.P11025     | 2.527 | 1.338 | 2.527 | up | Homo sapiens sushi domain containing 1 (SUSD1), transcript variant 2, mRNA (NM_022486)                                    |
| A.23.P50008     | 2.527 | 1.337 | 2.527 | up | Homo sapiens zinc finger protein 185 (LM domain) (ZNF185), transcript variant 1, mRNA (NM_001178106)                      |
| A.33.P3313110   | 2.527 | 1.337 | 2.527 | up | Homo sapiens tetrapeptide repeat domain 19 (TTG19), transcript variant 1, mRNA (NM_011775)                                |
| A.21.P0007586   | 2.527 | 1.337 | 2.527 | up | Homo sapiens mucin 16, cell surface associated (MUC16), mRNA (NM_024690)  |
| A.21.P0000025   | 2.526 | 1.337 | 2.526 | up | Homo sapiens nitric oxide synthase 3 (endothelial cell) (NOS3), transcript variant 2, mRNA (NM_001160109)                 |
| A.23.P150649    | 2.526 | 1.337 | 2.526 | up | Homo sapiens nitric oxide synthase 3 (endothelial cell) (NOS3), transcript variant 2, mRNA (NM_001160109)                 |
| A.22.P0010866   | 2.526 | 1.337 | 2.526 | up | Homo sapiens inositolminidase B (beta polyphosphate) (HEXB), transcript variant 1, mRNA (NM_005921)                       |
| A.21.P00004176  | 2.525 | 1.336 | 2.525 | up | LINCpadi1 lincRNA (linc-PHHD1-1), lincRNA (linc-PHHD1-1)  |
| A.21.P00004176  | 2.525 | 1.336 | 2.525 | up | LINCpadi1 lincRNA (linc-PHHD1-1), lincRNA (linc-PHHD1-1)  |
| A.33.P32603176  | 2.525 | 1.336 | 2.525 | up | LINCpadi1 lincRNA (linc-PHHD1-1), lincRNA (linc-PHHD1-1)  |
| A.33.P32603176  | 2.525 | 1.336 | 2.525 | up | LINCpadi1 lincRNA (linc-PHHD1-1), lincRNA (linc-PHHD1-1)  |
| A.23.P44244     | 2.524 | 1.336 | 2.524 | up | Homo sapiens SMARCA1, transcript variant 1, mRNA (NM_003069)  |
| A.33.P3388827   | 2.523 | 1.335 | 2.523 | up | Homo sapiens SMARCA1, transcript variant 1, mRNA (NM_003069)  |
| A.22.P000019176 | 2.523 | 1.335 | 2.523 | up | Homo sapiens PROM2, transcript variant 1, mRNA (NM_001165976)   |
| A.21.P0000060   | 2.522 | 1.334 | 2.522 | up | PREDICTED: Homo sapiens uncharacterized LOC101928714 (LOC101928714), mRNA (XR_241865)                                     |
| A.33.P3270315   | 2.522 | 1.334 | 2.522 | up | Homo sapiens TPT1 antisense RNA 1 (TPT1-AS1), long non-coding RNA (NR_024465)   |
| A.23.P3003857   | 2.521 | 1.334 | 2.521 | up | Homo sapiens hypothetical LOC114190, mRNA (cDNA clone IMAGE3937996), [BC009492]   |
| A.23.P18254     | 2.521 | 1.334 | 2.521 | up | Homo sapiens transmembrane and tetrapeptide repeat containing 1 (TMTTC1), transcript variant 2, mRNA (NM_175861)          |
| A.23.P215900    | 2.521 | 1.334 | 2.521 | up | Homo sapiens scavenger receptor class A, member 3 (SCAR3A), transcript variant 1, mRNA (NM_012440)                        |
| A.23.P36703     | 2.518 | 1.332 | 2.518 | up | Homo sapiens scavenger receptor class A, member 3 (SCAR3A), transcript variant 1, mRNA (NM_012440)                        |
| A.33.P3594214   | 2.518 | 1.332 | 2.518 | up | Homo sapiens SRY (sex determining region Y)-box 13 (SOX13), mRNA (NM_005686)  |
| A.22.P000180619 | 2.518 | 1.332 | 2.518 | up | Homo sapiens olfactory receptor, family 7, subfamily E, member 12 pseudogene (OR1E12P), non-coding RNA (NR_109399)        |
| A.22.P00025809  | 2.518 | 1.332 | 2.518 | up | OR1E12P   |
| A.33.P3310552   | 2.517 | 1.332 | 2.517 | up | OR1E12P   |
| A.33.P3281323   | 2.515 | 1.331 | 2.515 | up | Homo sapiens cDNA clone FROST2019383, 5' untranslated region, non-coding RNA (NR_100160)                                  |
| A.21.P00006578  | 2.515 | 1.330 | 2.515 | up | PREDICTED: Homo sapiens formin-like 2 (FNL2), transcript variant 2, mRNA (XR_024463)                                      |
| A.21.P00003070  | 2.514 | 1.330 | 2.514 | up | WD repeat domain 5 (Source:HGNC Symbol:Acc:HGNC:12751) [ENS:0000068893]   |
|                 |       |       |       |    | PREDICTED: Homo sapiens long intergenic non-protein coding RNA 1186 (LINC011186), transcript variant X2, mRNA (XR_426524) |
|                 |       |       |       |    | LINCpadi1 lincRNA (linc-EIF2B5-2), lincRNA (linc-EIF2B5-2)  |

|                |       |       |       |    |   |
|----------------|-------|-------|-------|----|---|
| A.33.P340264   | 2.514 | 1.330 | 2.514 | up | Homo sapiens oncostatin M (OSM, mRNA, NM_020503)  |
| A.23.P186408   | 2.514 | 1.330 | 2.514 | up | PREDC102: Homo sapiens uncharacterized LOC102726988 (LOC102726988, ccRNA, XR_431566)  |
| A.22.P0001846  | 2.514 | 1.330 | 2.514 | up | LOC102726988  |
| A.21.P0003594  | 2.514 | 1.330 | 2.514 | up | LOC102726988 (inc-POD17-6), lincRNA (inc-POD17-6-2)   |
| A.23.P317465   | 2.514 | 1.330 | 2.514 | up | Homo sapiens RAB8B, member RAS oncogene family (RAB8B), mRNA (NM_016530)  |
| A.23.P07847    | 2.514 | 1.330 | 2.514 | up | Homo sapiens polyphosphate N-acetylglucosaminyltransferase 14 (GALNT14), transcript variant 1, mRNA (NM_024572)   |
| A.23.P20746    | 2.513 | 1.329 | 2.513 | up | Homo sapiens Ablasin high-affinity integrin site 1 (AHI), transcript variant 2, mRNA (NM_017651)  |
| A.22.P0001748  | 2.513 | 1.329 | 2.513 | up | Homo sapiens cyclin J-like (CCNLJ), mRNA (NM_024565)  |
| A.23.P7884     | 2.513 | 1.329 | 2.513 | up | Homo sapiens SYZ4L family member 4 (SYZ4L), transcript variant 2, mRNA (NM_0129315)   |
| A.23.P24822    | 2.512 | 1.328 | 2.512 | up | Homo sapiens keratin-associated protein 21-2 (KRTAP21-2), mRNA (NM_131517)  |
| A.33.P343651   | 2.512 | 1.328 | 2.512 | up | 6030476071 NH.MCG.118 Homo sapiens cDNA clone IMAGE5188282.5, mRNA sequence [BI762903]  |
| A.22.P0001844  | 2.511 | 1.328 | 2.511 | up | Homo sapiens calcium channel, voltage-dependent, alpha 2, delta subunit 1 (CACNA2D1), transcript variant 1, mRNA (NM_000722)                                    |
| A.22.P0001813  | 2.510 | 1.328 | 2.510 | up | Homo sapiens interfacial 22 receptor, alpha 1 (IL22RA1), mRNA (NM_021295)   |
| A.33.P422476   | 2.510 | 1.328 | 2.510 | up | LOC102726988  |
| A.22.P0000314  | 2.510 | 1.328 | 2.510 | up | inc-DNASE1-1  |
| A.22.P0001814  | 2.509 | 1.327 | 2.509 | up | LOC102726988 (inc-ZNF13-2), lincRNA (inc-ZNF13-2-1)   |
| A.22.P0001814  | 2.509 | 1.327 | 2.509 | up | LOC102726988 (inc-ZNF13-2), lincRNA (inc-ZNF13-2-1)   |
| A.23.P43643    | 2.507 | 1.326 | 2.507 | up | Homo sapiens myoblast/lymphoid or mixed-lineage leukemia (cribriform homolog, Drosophila), translocated to 4 (MLLT4), transcript variant 4, mRNA (NM_001291954) |
| A.22.P00021185 | 2.507 | 1.326 | 2.507 | up | LOC102726988 (inc-RFC5-1), lincRNA (inc-RFC5-1-1)   |
| A.22.P00014739 | 2.506 | 1.325 | 2.506 | up | glycine aminotransferase (L-arginine/glycine aminotransferase) [Source:HGNC Symbol;Acc:HGNC:4175] [ENS:0000027935]  |
| A.22.P00019608 | 2.506 | 1.325 | 2.506 | up | LOC102726988 (inc-WNT1-2), lincRNA (inc-WNT1-2-1)   |
| A.21.P0001197  | 2.504 | 1.324 | 2.504 | up | BX10190 Soares fetal liver spleen T1FLS Homo sapiens cDNA clone IMAGE5980514, mRNA sequence [BX10190]   |
| A.33.P344643   | 2.504 | 1.324 | 2.504 | up | LOC102726988  |
| A.21.P0002351  | 2.502 | 1.323 | 2.502 | up | LOC102726988 (inc-AC007557.1-2), lincRNA (inc-AC007557.1-2-1)   |
| A.23.P10385    | 2.502 | 1.323 | 2.502 | up | Homo sapiens demicellin E3 ubiquitin protein ligase homolog (Drosophila) (DTL), transcript variant 1, mRNA (NM_016448)  |
| A.23.P10385    | 2.502 | 1.323 | 2.502 | up | Homo sapiens demicellin E3 ubiquitin protein ligase homolog (Drosophila) (DTL), transcript variant 1, mRNA (NM_016448)  |
| A.23.P10385    | 2.502 | 1.323 | 2.502 | up | Homo sapiens chromosome 1 open reading frame 226 (Corf226), transcript variant 2, mRNA (NM_001085375)   |
| A.33.P324105   | 2.502 | 1.323 | 2.502 | up | Homo sapiens kinase core-1 (KIF201B), transcript variant 1, mRNA (NM_001085375)   |
| A.21.P00016840 | 2.500 | 1.322 | 2.500 | up | Homo sapiens FRO2015 mRNA, complete cds. [AF119881]   |
| A.32.P167238   | 2.500 | 1.322 | 2.500 | up | Homo sapiens actin filament associated protein 1-like 1 (AFAP1L), transcript variant 1, mRNA (NM_152406)  |
| A.33.P336495   | 2.500 | 1.322 | 2.500 | up | Homo sapiens eDNA FLJ32955 fis, clone SMNT100039, [AK057067]  |
| A.24.P316838   | 2.500 | 1.322 | 2.500 | up | Homo sapiens leucine rich repeat (in FLD) interacting protein 1 (LRRFIP1), transcript variant 1, mRNA (NM_001137590)  |
| A.21.P0001227  | 2.499 | 1.321 | 2.499 | up | Homo sapiens leucine rich repeat (in FLD) interacting protein 1 (LRRFIP1), transcript variant 1, mRNA (NM_001137590)  |
| A.33.P3410484  | 2.498 | 1.321 | 2.498 | up | Homo sapiens solid carrier family 19 (scd11m) disordered diacylglycerol transporter, member 3 (SLC19A3), mRNA (NM_0159390)                                      |
| A.23.P336331   | 2.498 | 1.321 | 2.498 | up | Homo sapiens F-box protein 3 (FBXO3), transcript variant 2, mRNA (NM_033406)  |
| A.19.P00032737 | 2.497 | 1.320 | 2.497 | up | Homo sapiens zinc finger protein 254 (ZNF254), transcript variant 5, mRNA (NM_001278663)  |
| A.23.P135061   | 2.497 | 1.320 | 2.497 | up | Homo sapiens coronin, actin binding protein, 2A (CORO2A), transcript variant 1, mRNA (NM_003389)  |
| A.21.P0014721  | 2.496 | 1.320 | 2.496 | up | Homo sapiens theta, spermadial protein-like (THEGL), mRNA (NM_001256475)  |
| A.22.P00011523 | 2.496 | 1.320 | 2.496 | up | BX10274 Soares, testis, NHT Homo sapiens cDNA clone IMAGE59810450, mRNA sequence [BX10274]  |
| A.22.P00017617 | 2.496 | 1.320 | 2.496 | up | ALU1_HUMAN (P3188) Alu subfamily J sequence confirmation warning entry, partial (18%) [HE2359046]   |
| A.33.P3321539  | 2.496 | 1.319 | 2.496 | up | Homo sapiens TBC1 domain family, member 9 (with GRAM domain) (TBC1D9), mRNA (NM_016130)   |
| A.24.P244162   | 2.494 | 1.319 | 2.494 | up | Homo sapiens phosphatidylinositol 4-kinase type 2 alpha (PIK2A), mRNA (NM_018425)   |
| A.33.P3226868  | 2.494 | 1.318 | 2.494 | up | Homo sapiens transforming growth factor beta 1 induced transcript 1 (TGFBI1), transcript variant 1, mRNA (NM_001042454)   |
| A.23.P12384    | 2.494 | 1.318 | 2.494 | up | Homo sapiens efferocyte receptor, family 1, subfamily 5, member 2 (ORIS2), mRNA (NM_001004459)  |
| A.21.P0003856  | 2.494 | 1.318 | 2.494 | up | LOC102726988 (inc-SLCO3A1-3), lincRNA (inc-SLCO3A1-3-1)   |
| A.22.P00019182 | 2.493 | 1.318 | 2.493 | up | AV108109 ADP Homo sapiens eDNA clone ADEB34F02.3, mRNA sequence [AV108109]  |
| A.21.P0007484  | 2.492 | 1.318 | 2.492 | up | Homo sapiens long intergenic non-protein coding RNA 94 (LINCO0947), long non-coding RNA [NR_040245]   |
| A.22.P00009592 | 2.492 | 1.317 | 2.492 | up | HUM130E05 Human fetal brain (TfJiwara) Homo sapiens cDNA clone GEN-130E05.5, mRNA sequence [D81231]   |
| A.22.P00018842 | 2.492 | 1.317 | 2.492 | up | Homo sapiens uncharacterized LOC102723809 (LOC102723809), long non-coding RNA [NR_110650]   |
| A.33.P3260762  | 2.492 | 1.317 | 2.492 | up | recombination activating gene 2 [Source:HGNC Symbol;Acc:HGNC:8832] [ENST00000384379]  |
| A.22.P00003476 | 2.489 | 1.316 | 2.489 | up | LOC102726988 (inc-COD71L-1), lincRNA (inc-COD71L-1-2)   |
| A.33.P304133   | 2.489 | 1.315 | 2.489 | up | Homo sapiens galactosylase, beta 1-like 2 (GLB1L2), lincRNA (NM_138342)   |
| A.33.P3274504  | 2.489 | 1.315 | 2.489 | up | Homo sapiens thioredoxin reductase 2 (TXNRD2), transcript variant 2, mRNA (NM_001282512)  |
| A.21.P0010442  | 2.488 | 1.315 | 2.488 | up | LOC102726988 (inc-PDGFB-1), lincRNA (inc-PDGFB-1-1)   |
| A.33.P305840   | 2.488 | 1.315 | 2.488 | up | Homo sapiens serine/arginine-rich splicing factor 7 (SRSF7), transcript variant 2, mRNA (NM_001195446)  |
| A.23.P128246   | 2.487 | 1.314 | 2.487 | up | Homo sapiens FIC domain containing (FICD), mRNA (NM_007076)   |
| A.33.P327576   | 2.487 | 1.314 | 2.487 | up | Homo sapiens microtubule-associated protein 7 (MAP7), transcript variant 4, mRNA (NM_003980)  |
| A.22.P00007048 | 2.485 | 1.313 | 2.485 | up | LOC102726988 (inc-GK-2), lincRNA (inc-GK-2-1)   |
| A.23.P13485    | 2.485 | 1.313 | 2.485 | up | LOC102726988 (inc-GK-2), lincRNA (inc-GK-2-1)   |
| A.32.P47988    | 2.483 | 1.312 | 2.483 | up | Homo sapiens calcium/calmodulin-dependent protein kinase II delta (CAMK2D), transcript variant 3, mRNA (NM_0012721)   |
| A.24.P36205    | 2.483 | 1.312 | 2.483 | up | Homo sapiens calcium/calmodulin-dependent protein kinase II delta (CAMK2D), transcript variant 3, mRNA (NM_0012721)   |
| A.33.P300685   | 2.482 | 1.312 | 2.482 | up | Homo sapiens RNA polymerase 2, large subunit 2 (RPFP2), transcript variant 1, mRNA (NM_008623)  |
| A.33.P3956597  | 2.482 | 1.312 | 2.482 | up | PREDC102: Homo sapiens uncharacterized LOC101929988 (LOC101929988), transcript variant X1, ccRNA, XR_252344   |
| A.23.P78331    | 2.482 | 1.311 | 2.482 | up | Homo sapiens transmembrane BAX inhibitor motif containing 1 (TM6IM1), mRNA (NM_022152)  |





|                |       |       |       |                 |  |
|----------------|-------|-------|-------|-----------------|--|
| A.23.P10785    | 2.450 | 1.283 | 2.450 | VT1A            | Homo sapiens vesicle transport through interaction with t-SNARE1A (VT1A). mRNA [NM_145200]   |
| A.23.P21527    | 2.448 | 1.292 | 2.449 | DNAJB6          | Homo sapiens DnaJ (Hsp40) homolog, subfamily B, member 6 (DNAJB6). transcript variant 2. mRNA [NM_005494]  |
| A.21.P000985   | 2.448 | 1.292 | 2.448 | inc-C20orf197-1 | LOC200197-1. lincRNA [inc-C20orf197-1]   |
| A.21.P000986   | 2.448 | 1.292 | 2.448 | inc-MEOX1-1     | LOC200197-1. lincRNA [inc-MEOX1-1]   |
| A.23.P33539    | 2.448 | 1.292 | 2.448 | GAB1            | Homo sapiens GRB2-associated binding protein 1 (GAB1). transcript variant 1. mRNA [NM_207123]  |
| A.22.P0001643  | 2.447 | 1.281 | 2.447 | LOC101927734    | PREDICTED: Homo sapiens uncharacterized LOC101927734 (LOC101927734). mRNA [XR_249196]  |
| A.33.P3978056  | 2.447 | 1.291 | 2.447 | TFAP2A          | transcription factor AP-2 alpha (activating enhancer binding protein 2 alpha) [Source:HGNC Symbols;Acc:HGNC:1742] [ENS:00000478375]              |
| A.23.P98853    | 2.446 | 1.291 | 2.446 | FAM214A         | Homo sapiens family with sequence similarity 214, member A (FAM214A). transcript variant 1. mRNA [NM_018060]                                     |
| A.23.P45699    | 2.446 | 1.290 | 2.446 | FEN2            | Homo sapiens F-box protein 2 (FEN2). mRNA [NM_012168]  |
| A.21.P000883   | 2.445 | 1.290 | 2.445 | inc-KIF20B-5    | LOC200208-5. lincRNA [inc-KIF20B-5.1]  |
| A.23.P149892   | 2.445 | 1.289 | 2.445 | OSGALM1C12      | Homo sapiens chondroitin sulfate N-acetylglucosaminyltransferase 2 (OSGALM1C12). mRNA [NM_018590]  |
| A.23.P29202    | 2.443 | 1.289 | 2.443 | SMPPB           | Homo sapiens GDP-mannose 6-phosphoglucohydrolase B (GMPFB). transcript variant 2. mRNA [NM_021971]   |
| A.33.P3421674  | 2.443 | 1.289 | 2.443 | LMFK2           | Homo sapiens lemur tyrosine kinase 2 (LMFK2). mRNA [NM_014916]   |
| A.33.P326923   | 2.441 | 1.288 | 2.441 | inc-PARN-3      | LOC200197-1. lincRNA [inc-PARN-3.1]  |
| A.22.P323220   | 2.441 | 1.287 | 2.441 | inc-PARN-3      | LOC200197-1. lincRNA [inc-PARN-3.1]  |
| A.33.P326194   | 2.440 | 1.287 | 2.440 | EP38L2          | Homo sapiens EP38-like 2 (EP38L2). mRNA [NM_022772]  |
| A.23.P147822   | 2.440 | 1.287 | 2.440 | ens             | ens  |
| A.19.P00316761 | 2.440 | 1.287 | 2.440 | inc-C10orf10-1  | LOC200197-1. lincRNA [inc-C10orf10-1.1]  |
| A.22.P00002271 | 2.439 | 1.286 | 2.439 | ABC3            | Homo sapiens ATP-binding cassette, sub-family C (GFR/MRP), member 3 (ABC3). transcript variant 1. mRNA [NM_002786]                               |
| A.23.P207507   | 2.439 | 1.286 | 2.439 | ABC3            | Homo sapiens long intergenic non-protein coding RNA 472 (LINC00472). transcript variant 1, long non-coding RNA [NR_121072]                       |
| A.19.P00319404 | 2.439 | 1.286 | 2.439 | LINC00472       | Homo sapiens long intergenic non-protein coding RNA 472 (LINC00472). transcript variant 1, long non-coding RNA [NR_121072]                       |
| A.23.P0017819  | 2.438 | 1.286 | 2.438 | inc-SCRG1-1     | LOC200197-1. lincRNA [inc-SCRG1-1.3]   |
| A.21.P0003983  | 2.437 | 1.285 | 2.437 | MM2P25          | Homo sapiens matrix metalloproteinase 25 (MM2P25). mRNA [NM_022468]  |
| A.33.P3261234  | 2.437 | 1.285 | 2.437 | LPHN2           | Homo sapiens leucine-rich repeat protein 2 (LPHN2). transcript variant 1. mRNA [NM_012302]   |
| A.23.P74042    | 2.437 | 1.285 | 2.437 | SPTBN2          | zinc finger protein 29, pseudogene [Source:HGNC Symbols;Acc:HGNC:13880] [ENS:00000225887]  |
| A.33.P3647427  | 2.436 | 1.285 | 2.436 | SPTBN2          | Homo sapiens spectrin, beta, non-erythrocytic 2 (SPTBN2). mRNA [NM_005946]   |
| A.23.P382822   | 2.436 | 1.285 | 2.436 | PICALM          | Homo sapiens phosphatidylinositol binding clathrin assembly protein (PICALM). transcript variant 1. mRNA [NM_007166]                             |
| A.33.P382157   | 2.435 | 1.284 | 2.435 | KMT2E-AS1       | Homo sapiens KMT2E antisense RNA 1 (head to head) (KMT2E-AS1). long non-coding RNA [NR_024586]   |
| A.21.P0009879  | 2.434 | 1.283 | 2.434 | PELB            | Homo sapiens pelfin E3 ubiquitin protein ligase family member 3 (PEL3). transcript variant 1. mRNA [NM_149055]                                   |
| A.22.P00015401 | 2.433 | 1.283 | 2.433 | PELB            | Homo sapiens pelfin E3 ubiquitin protein ligase family member 3 (PEL3). transcript variant 1. mRNA [NM_149055]                                   |
| A.23.P104692   | 2.433 | 1.283 | 2.433 | SAMD14          | Homo sapiens sterile alpha motif domain containing 14 (SAMD14). transcript variant 1. mRNA [NM_174920]   |
| A.24.P185188   | 2.432 | 1.282 | 2.432 | USP54           | Homo sapiens ubiquitin specific peptidase 54 (USP54). mRNA [NM_126566]   |
| A.21.P0006940  | 2.432 | 1.282 | 2.432 | inc-TRH-2       | Homo sapiens thyroid-releasing hormone 2 (TRH2). transcript variant 2. mRNA [NM_155146]  |
| A.23.P33536    | 2.432 | 1.282 | 2.432 | inc-TRH-2       | LOC200197-1. lincRNA [inc-TRH-2.1]   |
| A.22.P00016741 | 2.431 | 1.281 | 2.431 | MTM1            | Homo sapiens myotubularin 1 (MTM1). mRNA [NM_000925]   |
| A.23.P62133    | 2.430 | 1.281 | 2.430 | TIGD2           | Homo sapiens zinc finger and SCAN domain containing 12 pseudogene 1 (ZSCAN12P1). non-coding RNA [NR_024063]                                      |
| A.32.P205123   | 2.430 | 1.281 | 2.430 | ZAK             | Homo sapiens sterile alpha motif and leucine zipper containing kinase ZAK (ZAK). transcript variant 1. mRNA [NM_016653]                          |
| A.33.P3442113  | 2.430 | 1.281 | 2.430 | ZAK             | Homo sapiens sterile alpha motif and leucine zipper containing kinase ZAK (ZAK). transcript variant 1. mRNA [NM_016653]                          |
| A.32.P183367   | 2.429 | 1.280 | 2.429 | RAA3A2          | DAI12932. BRAMY2 Homo sapiens cDNA clone BRAMY2/010878.5. mRNA sequence [DA12932]  |
| A.33.P3281972  | 2.429 | 1.280 | 2.429 | RAA3A2          | Homo sapiens cDNA FLJ35724.1a, clone TEST12002493. [AK098043]  |
| A.22.P00006618 | 2.428 | 1.280 | 2.428 | inc-ADAM23-1    | Homo sapiens T-cell leukemia/lymphoma 1B (TCL1B). mRNA [NM_004918]   |
| A.22.P00004665 | 2.428 | 1.280 | 2.428 | TCL1B           | LOC200197-1. lincRNA [inc-ADAM23-1.1]  |
| A.23.P48485    | 2.428 | 1.278 | 2.428 | PROSER2         | QILLJ1.CHURC (QILLJ1). CALK protein, partial (3). [TH02984620]   |
| A.21.P0001041  | 2.425 | 1.278 | 2.425 | PROSER2         | Homo sapiens profilin and serine rich 2 (PROSER2). mRNA [NM_152938]  |
| A.33.P337182   | 2.425 | 1.278 | 2.425 | PROSER2         | Homo sapiens cytochrome P450, family 21, subfamily 1, polypeptide 2 (CYP21A2). transcript variant 1. mRNA [NM_002500]                            |
| A.23.P257478   | 2.425 | 1.278 | 2.425 | CYP21A2         | Homo sapiens cytochrome P450, family 21, subfamily 1, polypeptide 2 (CYP21A2). transcript variant 1. mRNA [NM_002500]                            |
| A.33.P3393947  | 2.425 | 1.278 | 2.425 | GRSN1           | Homo sapiens G-protein signaling modulator 1 (GRSN1). transcript variant 2. mRNA [NM_015167]   |
| A.33.P334979   | 2.424 | 1.277 | 2.424 | PRG3            | Homo sapiens protein phosphatase 3, gamma isoform (PRG3). transcript variant 2. mRNA [NM_015164]   |
| A.33.P3342569  | 2.424 | 1.277 | 2.424 | SI00A6          | Homo sapiens LPT5007 protein, E1550000038.418-like (LOC729150). mRNA [NM_0152820]  |
| A.23.P201171   | 2.423 | 1.277 | 2.423 | SI00A6          | Homo sapiens S100 calcium binding protein A6 (SI00A6). mRNA [NM_014824]  |
| A.21.P0011714  | 2.423 | 1.277 | 2.423 | LILRA6          | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), member 6 (LILRA6). transcript variant 1. mRNA [NM_024318]     |
| A.33.P3294217  | 2.423 | 1.277 | 2.423 | UTFI            | Homo sapiens undifferentiated embryonic cell transcription factor 1 (UTF1). mRNA [NM_003577]   |
| A.23.P148047   | 2.422 | 1.276 | 2.422 | PTGER4          | Homo sapiens prostaglandin E receptor 4 (subtype EP4) (PTGER4). mRNA [NM_000958]   |
| A.24.P56330    | 2.422 | 1.276 | 2.422 | TEX29           | Homo sapiens testis expressed 29 (TEX29). transcript variant 2. mRNA [NM_152924]   |
| A.23.P371769   | 2.421 | 1.276 | 2.421 | SDRC7           | Homo sapiens short chain dehydrogenase/reductase family 9C, member 7 (SDRC7). mRNA [NM_148897]   |
| A.32.P296639   | 2.421 | 1.276 | 2.421 | LOC102088111    | Homo sapiens uncharacterized LOC102088111 (LOC102088111). long non-coding RNA [NR_037631]  |
| A.21.P0007135  | 2.421 | 1.276 | 2.421 | inc-NAALADL1-1  | PREDICTED: Homo sapiens cell division cycle associated 5 (ODCA5). transcript variant X2. mRNA [XM_005273734]                                     |
| A.23.P87500    | 2.420 | 1.275 | 2.420 | GRMDL2          | Homo sapiens ORMDL sphingolipid biosynthesis regulator 2 (GRMDL2). mRNA [NM_014182]  |
| A.33.P3394198  | 2.419 | 1.275 | 2.419 | PFOS            | Homo sapiens polyoxyglutamate synthase (PFOS). transcript variant 2. mRNA [NM_010180]  |
| A.33.P321597   | 2.418 | 1.274 | 2.418 | PRP1            | Homo sapiens retinoblastoma 9 pseudogene (PRP9). non-coding RNA [NR_035393]  |
| A.23.P321597   | 2.418 | 1.274 | 2.418 | PRP1            | Homo sapiens retinoblastoma 9 pseudogene (PRP9). non-coding RNA [NR_035393]  |
| A.23.P321597   | 2.417 | 1.273 | 2.417 | LOC200197-1     | Homo sapiens myosin X overexpressed (MYO10). transcript variant 2. mRNA [NM_002045]  |
| A.24.P202985   | 2.415 | 1.272 | 2.415 | LOC200197-1     | Homo sapiens cell adhesion molecule 1 (CAM1). transcript variant 1. mRNA [NM_002045]   |
| A.32.P189788   | 2.415 | 1.272 | 2.415 | C1orf56         | Homo sapiens C1orf56 (12 open reading frame 56) (C1orf56). transcript variant 1. mRNA [NM_00170833]  |
| A.23.P30070    | 2.414 | 1.271 | 2.414 | TFPI            | Homo sapiens tissue factor pathway inhibitor (tissue protein-associated coagulation inhibitor) (TFPI). transcript variant 2. mRNA [NM_001032281] |
| A.23.P376096   | 2.413 | 1.271 | 2.413 | TICAM1          | Homo sapiens toll-like receptor adaptor molecule 1 (TICAM1). mRNA [NM_182919]  |

|                |      |      |      |    |                |   |
|----------------|------|------|------|----|----------------|---|
| A.21.P0014785  | 2412 | 1270 | 2412 | up | VIM-AS1        | Homo sapiens VIM antisense RNA 1 (VIM-AS1), transcript variant 1, long non-coding RNA [NR_108061]                                 |
| A.22.P0006312  | 2412 | 1270 | 2412 | up |                | PREDICTED: Homo sapiens lysophosphatidylcholine acyltransferase 2 (LPCAT2), transcript variant X1, mRNA [NM_009296006]            |
| A.19.P0012340  | 2411 | 1269 | 2411 | up | FTL            | Homo sapiens ferritin, light polypeptide (FTL), mRNA [NM_0001046]   |
| A.22.P00017965 | 2410 | 1269 | 2410 | up |                | GZLV9 PSEUD (GZLV9) N-formylglutamate deformylase, partial (5), [TC29713246]  |
| A.22.P00000708 | 2410 | 1269 | 2410 | up | INC-ADAMTS14-1 | Homo sapiens involucrin-related protein 1 (MTMR1), mRNA [NM_008928]   |
| A.23.P73530    | 2409 | 1268 | 2409 | up | MTMR1          | INC-ADAMTS14-1  |
| A.21.P0008161  | 2409 | 1268 | 2409 | up |                | INC-SUCA2-4   |
| A.21.P0009177  | 2408 | 1268 | 2408 | up | LOC102733831   | PREDICTED: Homo sapiens hepatocellular carcinoma-associated antigen HCA25a (LOC10666654), transcript variant X2, mRNA [XR_244021] |
| A.21.P0029165  | 2408 | 1268 | 2408 | up | LOC101939433   | PREDICTED: Homo sapiens uncharacterized LOC101939433, mRNA [XR_241266]  |
| A.22.P00023498 | 2408 | 1268 | 2408 | up | LOC106562832   | PREDICTED: Homo sapiens uncharacterized LOC106562832, mRNA [XR_241266]  |
| A.33.P49370029 | 2407 | 1268 | 2407 | up |                | T cell receptor gamma variable 11 (non-functional) [SourceHGNC Symbol:AcHGNC:12286] [ENS:00000890340]                             |
| A.22.P00006895 | 2407 | 1267 | 2407 | up |                | ALU1_HUMAN (P39188) Alu subfamily J sequence contamination warning, partial (5%) [THC2684308]                                     |
| A.23.P48198    | 2406 | 1267 | 2406 | up | GLTSD2         | Homo sapiens glyoxylate transferase 8, domain containing 2, GLTSD2, mRNA [NM_031302]  |
| A.33.P3241285  | 2406 | 1267 | 2406 | up | LEPROT         | Homo sapiens cDNA FL37482, fig. clone BRAHW201384.L [AK094801]  |
| A.22.P00017166 | 2405 | 1266 | 2405 | up | INC0101397     | Homo sapiens long intergenic non-protein coding RNA 187 (LINCO1387), long non-coding RNA [NR_128382]                              |
| A.23.P145006   | 2404 | 1266 | 2404 | up | SCGB3A2        | Homo sapiens secretoglobin, family 3A, member 2 (SCGB3A2), mRNA [NM_054023]   |
| A.33.P3328511  | 2403 | 1265 | 2403 | up | ARL17B         | Homo sapiens ADP-ribosylation factor-like 17B (ARL17B), transcript variant 1, mRNA [NM_001039089]                                 |
| A.22.P00025373 | 2403 | 1265 | 2403 | up |                | Homo sapiens clone P3 (Ttara2D), testacearinoma mRNA [AF279783] [NM_001039089]  |
| A.23.P125643   | 2403 | 1265 | 2403 | up | AS99           | Homo sapiens ankyrin repeat and SOCS box containing 9 (AS99), transcript variant 1, mRNA [NM_001031739]                           |
| A.33.P340884   | 2402 | 1264 | 2402 | up | WDR31          | Homo sapiens forkhead/winged helix transcription factor 31 (WDR31), mRNA [NM_016868]  |
| A.21.P0011984  | 2402 | 1264 | 2402 | up | INTS8          | Homo sapiens integrator subunit 8 (INTS8), transcript variant 1, mRNA [NM_012141]   |
| A.33.P341272   | 2401 | 1264 | 2401 | up | SN38           | Homo sapiens integrator subunit 8 (SN38), mRNA [NM_013120]  |
| A.21.P0001411  | 2401 | 1263 | 2401 | up | INC2BTB17-2    | LONGsedia lncRNA (inc-2BTB17-2), lncRNA [inc-2BTB17-2.1]  |
| A.33.P326898   | 2400 | 1263 | 2400 | up | GDNF           | Homo sapiens glial cell derived neurotrophic factor (GDNF), transcript variant 3, mRNA [NM_001190488]                             |
| A.24.P318257   | 2400 | 1263 | 2400 | up | NHLRC4         | Homo sapiens NHL repeat containing 4 (NHLRC4), transcript variant 2, mRNA [NM_176877]   |
| A.33.P341587   | 2400 | 1263 | 2400 | up | ABL2           | Homo sapiens ABL proto-oncogene 2, non-receptor tyrosine kinase (ABL2), transcript variant e, mRNA [NM_001138001]                 |
| A.23.P379639   | 2398 | 1262 | 2398 | up | SLC39A10       | Homo sapiens solute carrier family 38, member 10 (SLC39A10), transcript variant 2, mRNA [NM_138570]                               |
| A.33.P331259   | 2398 | 1262 | 2398 | up | INC-DNAI1-1    | GRUMP7_HUMAN (GRUMP7) GAAATG, partial (64%), [THC278375]  |
| A.33.P322069   | 2398 | 1262 | 2398 | up | SPHK1          | Homo sapiens sphingosine kinase 1 (SPHK1), transcript variant 2, mRNA [NM_182945]   |
| A.21.P0005738  | 2398 | 1262 | 2398 | up | INC-POPT-1     | LONGsedia lncRNA (inc-POPT-1), lncRNA [inc-POPT-1.1]  |
| A.21.P00016385 | 2397 | 1262 | 2397 | up | LOC101008395   | Homo sapiens uncharacterized LOC101008395 (LOC101008395), long non-coding RNA [NR_110179]   |
| A.33.P321285   | 2397 | 1261 | 2397 | up | SOX4HG         | Homo sapiens Sox4 enhancer (SOX4HG), mRNA [NM_023016]   |
| A.23.P78651    | 2397 | 1261 | 2397 | up | PRMT5          | Homo sapiens protein arginine methyltransferase 5 (PRMT5), transcript variant 2, mRNA [NM_001038119]                              |
| A.22.P00065722 | 2397 | 1261 | 2397 | up |                | Homo sapiens TBC1D3P1-DHX40P1 readthrough transcribed pseudogene (TBC1D3P1-DHX40P1), non-coding RNA [NR_009294]                   |
| A.21.P0014821  | 2396 | 1261 | 2396 | up | GAIP1-AS2      | Homo sapiens GAIP antisense RNA 2 (GAIP-AS2), long non-coding RNA [NR_126777]   |
| A.22.P00018229 | 2396 | 1261 | 2396 | up | SYNE1          | Homo sapiens spectrin repeat containing nuclear envelope 1 (SYNE1), transcript variant 2, mRNA [NM_033071]                        |
| A.33.P4938910  | 2396 | 1260 | 2396 | up |                | Homo sapiens spectrin repeat containing nuclear envelope 1 (SYNE1), transcript variant 2, mRNA [NM_033071]                        |
| A.21.P0014833  | 2396 | 1260 | 2396 | up | LOC100505924   | PREDICTED: Homo sapiens uncharacterized LOC100505924 (LOC100505924), mRNA [XR_1191915]  |
| A.33.P356409   | 2395 | 1260 | 2395 | up |                | melanoma antigen family 4.B [SourceHGNC Symbol:AcHGNC:22880] [ENS:00000481096]  |
| A.23.P39573    | 2393 | 1259 | 2393 | up | ITGB2          | Homo sapiens integrin, beta 2 (complement component 3 receptor 3 and 4 subunit) (ITGB2), transcript variant 1, mRNA [NM_000211]   |
| A.33.P3306837  | 2393 | 1259 | 2393 | up | SLC23A3        | Homo sapiens solute carrier family 23, member 3 (SLC23A3), transcript variant 1, mRNA [NM_144712]                                 |
| A.23.P4219     | 2393 | 1259 | 2393 | up | LIPH           | Homo sapiens lipase, member H (LIPH), mRNA [NM_139248]  |
| A.33.P328207   | 2393 | 1259 | 2393 | up | AAK1           | Homo sapiens cDNA clone IMAGE526225 [BC989950]  |
| A.33.P354161   | 2392 | 1258 | 2392 | up |                | RC2-ET0941-221000-072-208-ET0941 Homo sapiens cDNA, mRNA sequence [BF742660]  |
| A.22.P00022881 | 2391 | 1258 | 2391 | up | LOC101826983   | Homo sapiens uncharacterized LOC101826983 (LOC101826983), transcript variant 1, long non-coding RNA [NR_110054]                   |
| A.33.P321651   | 2391 | 1258 | 2391 | up | IVA-RP81       | Homo sapiens major histocompatibility complex class II, DP, beta 1 (IVA-RP81), mRNA [NM_002121]                                   |
| A.21.P0014772  | 2390 | 1257 | 2390 | up | HST1-HA1       | Homo sapiens histone H1b, sense intron 5 (HST1-HA1), mRNA [AF4578042] [BC010292]  |
| A.22.P008120   | 2390 | 1257 | 2390 | up | ZNF432         | Homo sapiens zinc finger protein 432 (ZNF432), mRNA [NM_014650]   |
| A.33.P368930   | 2390 | 1256 | 2390 | up | MAGI1          | Homo sapiens membrane associated guanylate kinase, WW and PDZ domain containing 1 (MAGI1), transcript variant 1, mRNA [NM_015520] |
| A.33.P3480395  | 2388 | 1256 | 2388 | up | SCUBE1         | signal peptide, CUB domain, EGF-like 1 [SourceHGNC Symbol:AcHGNC:13441] [ENS:00000380855]   |
| A.23.P74389    | 2388 | 1256 | 2388 | up | HYALP1         | Homo sapiens hyaluronidase protein 1 (GSRP1), transcript variant 1, mRNA [NM_004078]  |
| A.33.P3395547  | 2388 | 1256 | 2388 | up | RYR1           | Homo sapiens ryanodine receptor 1 (RYR1), non-coding RNA [NR_002731]  |
| A.24.P940149   | 2387 | 1255 | 2387 | up | C2CD2          | Homo sapiens C2 calcium-dependent domain containing 2 (C2CD2), transcript variant 1, mRNA [NM_018500]                             |
| A.23.P38796    | 2386 | 1254 | 2386 | up | PPP2R5B        | Homo sapiens protein phosphatase 2, regulatory subunit B, beta (PPP2R5B), mRNA [NM_006244]  |
| A.33.P3287203  | 2385 | 1254 | 2385 | up | SLC22A14       | Homo sapiens solute carrier family 22, member 14 (SLC22A14), mRNA [NM_004803]   |
| A.33.P3312544  | 2385 | 1254 | 2385 | up | GAARBI1        | gamma-aminobutyric acid (GABA) A receptor, beta 1 [SourceHGNC Symbol:AcHGNC:4081] [ENS:00000381582]                               |
| A.23.P48484    | 2383 | 1253 | 2383 | up | RR175          | Homo sapiens keratin 75, type II (RR175), mRNA [NM_000688]  |
| A.33.P3414500  | 2382 | 1252 | 2382 | up | TRIO           | Trio Rho, guanine nucleotide exchange factor [SourceHGNC Symbol:AcHGNC:12603] [ENS:0000020311]                                    |
| A.24.P327144   | 2381 | 1252 | 2381 | up | ANTXR2         | Homo sapiens antxin receptor 2 (ANTXR2), transcript variant 1, mRNA [NM_0181172]  |
| A.21.P0002933  | 2380 | 1251 | 2380 | up | FRANZ2-AS1     | Homo sapiens FRANZ2 antisense RNA 1 (FRANZ2-AS1), transcript variant 1, mRNA [NR_038420]  |
| A.33.P3422874  | 2379 | 1250 | 2379 | up | LINC01159      | Homo sapiens long intergenic non-protein coding RNA 1159 (LINC01159), transcript variant 2, long non-coding RNA [NR_110374]       |
| A.32.P102935   | 2378 | 1250 | 2378 | up | SPDYA          | Homo sapiens senidy/RINGO cell cycle regulator family member A (SPDYA), transcript variant 2, mRNA [NM_001008779]                 |
| A.33.P3388482  | 2378 | 1250 | 2378 | up | TMEM120B       | Homo sapiens transmembrane protein 120B (TMEM120B), mRNA [NM_001080825]   |
| A.33.P3254831  | 2378 | 1250 | 2378 | up |                |   |

|                |       |      |       |                |   |
|----------------|-------|------|-------|----------------|---|
| A.33.P3212716  | 2.377 | 1249 | 2.377 | LOC101929988   | PREDICTED: Homo sapiens uncharacterized LOC101929988 (LOC101929988), mRNA [XR_428272]   |
| A.33.P3303665  | 2.377 | 1249 | 2.377 | FAM120C        | Homo sapiens family with sequence similarity 120C (FAM120C), transcript variant 2, mRNA [NM_188456]                                   |
| A.33.P335533   | 2.377 | 1249 | 2.377 | ZC3H12D        | Homo sapiens zinc finger CCHC-type containing 12D (ZC3H12D), mRNA [NM_207390]   |
| A.22.P00008895 | 2.377 | 1249 | 2.377 | SSSCA1-AS1     | Homo sapiens SSSCA1 antisense RNA 1 (head to head) (SSSCA1-AS1), long non-coding RNA [NR_038923]                                      |
| A.33.P3304603  | 2.377 | 1249 | 2.377 | ZMIZ1          | Homo sapiens zinc finger, MIZ-type containing 1 (ZMIZ1), mRNA [NM_028338]   |
| A.33.P3260575  | 2.376 | 1249 | 2.376 | CERCAM         | Homo sapiens cerebral endothelial cell adhesion molecule (CERCAM), transcript variant 1, mRNA [NM_010743]                             |
| A.33.P3317465  | 2.376 | 1249 | 2.376 | MIR181         | LOC101929988, transcript variant 1 (MIR181), transcript variant 1, mRNA [NM_021242]   |
| A.33.P3306891  | 2.375 | 1248 | 2.375 | LOC101929988   | Homo sapiens uncharacterized LOC101929988 (LOC101929988), mRNA [NM_024828]  |
| A.23.P46682    | 2.374 | 1248 | 2.374 | OBFC1          | Homo sapiens olfactory bulb and cerebellum binding factor containing 1 (OBFC1), mRNA [NM_024828]                                      |
| A.23.P131050   | 2.374 | 1247 | 2.374 | AC9S62         | Homo sapiens acyl-CoA synthetase bubblegum family member 2 (AC9S62), transcript variant 2, mRNA [NM_038924]                           |
| A.23.P323883   | 2.373 | 1247 | 2.373 | PLEKHG2        | Homo sapiens pleckstrin homology domain containing, family G (with RhoGef domain) member 2 (PLEKHG2), mRNA [NM_022835]                |
| A.23.P27260    | 2.373 | 1247 | 2.373 | ODS1           | Homo sapiens ODP-dilcy/glyoxal synthase (phosphatidate cytidyltransferase) 1 (ODS1), mRNA [NM_001263]                                 |
| A.23.P101005   | 2.373 | 1247 | 2.373 | KLK11          | Homo sapiens leukin-related peptidase 11 (KLK11), transcript variant 2, mRNA [NM_144847]  |
| A.23.P185923   | 2.372 | 1246 | 2.372 | STRN           | Homo sapiens striatin, calmodulin binding protein (STRN), mRNA [NM_003182]  |
| A.23.P19243    | 2.372 | 1246 | 2.372 | FRD266         | Homo sapiens FRD266, mRNA, complete cds. [AF119870]   |
| A.33.P331021   | 2.371 | 1246 | 2.371 | SLOC2A12       | Homo sapiens solute carrier family 22 (organic anion/urate transporter), member 12 (SLOC2A12), transcript variant 1, mRNA [NM_144855] |
| A.22.P0001885  | 2.371 | 1246 | 2.371 | INC-EGCAT2-2   | LOC101929988, transcript variant 2 (INC-EGCAT2-2), mRNA [NC_033935]   |
| A.23.P253010   | 2.370 | 1245 | 2.370 | WNT7A          | Homo sapiens wingless-type, MMV integration site family, member 7A (WNT7A), mRNA [NM_004625]  |
| A.21.P0001787  | 2.368 | 1244 | 2.368 | INC-SHBD1-4    | Homo sapiens uncharacterized LOC101929988 (LOC101929988), mRNA [NC_033935]  |
| A.23.P334348   | 2.368 | 1244 | 2.368 | EPO1           | Homo sapiens erythropoietin receptor-like domain containing 1 (EPO1), mRNA [NM_003650]  |
| A.22.P00014015 | 2.367 | 1243 | 2.367 | LOC101929988   | Homo sapiens uncharacterized LOC101929988 (LOC101929988), long non-coding RNA [NR_033935]   |
| A.24.P229884   | 2.367 | 1243 | 2.367 | SHIM22         | Homo sapiens small integral membrane protein 22 (SHIM22), transcript variant 1, mRNA [NM_001253790]                                   |
| A.22.P00008930 | 2.366 | 1242 | 2.366 | INC-TTC7B-4    | LOC101929988, transcript variant 4 (INC-TTC7B-4), lincRNA [linc-TTC7B-4]  |
| A.21.P0008545  | 2.365 | 1242 | 2.365 | LOC101929988   | Homo sapiens uncharacterized LOC101929988 (LOC101929988), long non-coding RNA [NR_033935]   |
| A.21.P0000882  | 2.365 | 1242 | 2.365 | LOC101929988   | Homo sapiens uncharacterized LOC101929988 (LOC101929988), long non-coding RNA [NR_033935]   |
| A.33.P365133   | 2.364 | 1241 | 2.364 | LINC00642      | Homo sapiens long intergenic non-protein coding RNA 642 (LINC00642), long non-coding RNA [NR_033888]                                  |
| A.22.P00016937 | 2.363 | 1241 | 2.363 | INC-TMEM194B-1 | fa12a10.v1 Human Lens cDNA (Normalized): fa Homo sapiens cDNA clone fa 12a 10 5', mRNA sequence [GC974464]                            |
| A.23.P317184   | 2.363 | 1241 | 2.363 | LRRFP2         | Homo sapiens leucine rich repeat (in FLN) interacting protein 2 (LRRFP2), transcript variant 1, mRNA [NM_008309]                      |
| A.33.P3373985  | 2.363 | 1240 | 2.363 | LOC101929988   | Homo sapiens uncharacterized LOC101929988 (LOC101929988), mRNA [XR_244823]  |
| A.21.P0011952  | 2.362 | 1240 | 2.362 | UCHL3          | Homo sapiens ubiquitin-protein ligase E3 component 3 (UCHL3), transcript variant 1, mRNA [NM_004892]                                  |
| A.23.P78690    | 2.362 | 1240 | 2.362 | SPODEF         | Homo sapiens SAM pointed domain containing ETS transcription factor (SPODEF), transcript variant 1, mRNA [NM_012391]                  |
| A.23.P111194   | 2.362 | 1240 | 2.362 | SPINT1         | Homo sapiens serine peptidase inhibitor, Kunitz type 1 (SPINT1), transcript variant 1, mRNA [NM_181642]                               |
| A.23.P49060    | 2.362 | 1240 | 2.362 | LAMC2          | Homo sapiens laminin gamma 2 (LAMC2), transcript variant 1, mRNA [NM_005562]  |
| A.23.P201636   | 2.361 | 1240 | 2.361 | CYP28B1        | Homo sapiens cytochrome P450, family 28, subfamily B, polypeptide 1 (CYP28B1), transcript variant 1, mRNA [NM_018885]                 |
| A.23.P210109   | 2.361 | 1239 | 2.361 | INC-SLC29A4-1  | H013059F18.9, mRNA, sequences [DB452883]  |
| A.22.P00014721 | 2.361 | 1239 | 2.361 | LOC101929988   | DB422883 RIKEN full-length enriched human cDNA library, testis Homo sapiens cDNA clone [NM_006595]                                    |
| A.19.P00315647 | 2.360 | 1239 | 2.360 | YBX2           | PREDICTED: Homo sapiens uncharacterized LOC100907165 (LOC100907165), mRNA [XR_105300]   |
| A.23.P48965    | 2.360 | 1239 | 2.360 | SIGLEC1B       | Homo sapiens Y box binding protein 2 (YBX2), mRNA [NM_015962]   |
| A.23.P501746   | 2.360 | 1238 | 2.360 | MILIP          | Homo sapiens milk interacting protein (MILIP), mRNA [NM_014398]   |
| A.24.P415824   | 2.359 | 1238 | 2.359 | ZHFS7          | Homo sapiens ZHFS7 zinc finger protein (ZHFS7), mRNA [NM_00109959]  |
| A.32.P80245    | 2.358 | 1237 | 2.358 | CULP2          | Homo sapiens CAP-GL1 domain containing linker protein 2 (CULP2), transcript variant 1, mRNA [NM_003358]                               |
| A.23.P215479   | 2.356 | 1236 | 2.356 | ARHGFE28       | Homo sapiens Ras guanine nucleotide exchange factor (GEF) 28 (ARHGFE28), transcript variant 2, mRNA [NM_00117893]                     |
| A.33.P3387126  | 2.356 | 1236 | 2.356 | SSU12          | SSU12 nucleosome 8 [Source:HGNC Symbol;Acc:HGNC:43827] [ENS:0000043820]   |
| A.33.P3232653  | 2.356 | 1236 | 2.356 | ADIPOR1        | Homo sapiens adiponectin receptor 1 (ADIPOR1), transcript variant 3, mRNA [NM_01290957]   |
| A.33.P3248365  | 2.356 | 1236 | 2.356 | SLC12A7        | Homo sapiens solute carrier family 12 (potassium/chloride transporter), member 7 (SLC12A7), mRNA [NM_006595]                          |
| A.33.P3357500  | 2.355 | 1236 | 2.355 | MIR503HG       | Homo sapiens MIR503 host gene (non-protein coding), (MIR503HG), long non-coding RNA [NR_024607]                                       |
| A.22.P00011883 | 2.354 | 1235 | 2.354 | SORD           | Homo sapiens sorbitol dehydrogenase (SORD), transcript variant 1, mRNA [NM_003104]  |
| A.23.P77103    | 2.354 | 1235 | 2.354 | YLM1           | YLP motif containing 1 [Source:HGNC Symbol;Acc:HGNC:17798] [ENS:0000055384]   |
| A.22.P00017516 | 2.354 | 1235 | 2.354 | PARGEF2        | Homo sapiens Ras guanine nucleotide exchange factor (GEF) 2 (PARGEF2), mRNA [NM_014247]   |
| A.33.P3334745  | 2.354 | 1235 | 2.354 | LOC100606885   | PREDICTED: Homo sapiens uncharacterized LOC100606885 (LOC100606885), transcript variant X1, mRNA [XR_171473]                          |
| A.21.P0003319  | 2.354 | 1235 | 2.354 | CCL4L2         | Homo sapiens chemokine (C-C motif) ligand 4-like 2 (CCL4L2), transcript variant, CCL4L2b, mRNA [NM_00291470]                          |
| A.33.P3354604  | 2.354 | 1235 | 2.354 | STK24          | Homo sapiens serine/threonine kinase 24 (STK24), transcript variant 2, mRNA [NM_001032286]  |
| A.24.P73389    | 2.353 | 1234 | 2.353 | CDOP1          | Homo sapiens CUB domain containing protein 1 (CDOP1), transcript variant 1, mRNA [NM_022842]  |
| A.23.P131013   | 2.353 | 1234 | 2.353 | LOC101929988   | SSO2 domain containing protein 1 (SSO2) [Source:HGNC Symbol;Acc:HGNC:17799] [ENS:000003031975]  |
| A.33.P3271657  | 2.352 | 1234 | 2.352 | PHLPP1         | Homo sapiens PHLPP1 (PHLPP1), transcript variant 1, lincRNA [NM_001373289]  |
| A.23.P89782    | 2.352 | 1234 | 2.352 | PHLPP1         | Homo sapiens PHLPP1 (PHLPP1), transcript variant 1, lincRNA [NM_184448]   |
| A.24.P751074   | 2.352 | 1234 | 2.352 | ETS1           | Homo sapiens v-kit avian erythroblastosis virus E26 oncogene homolog 1 (ETS1), transcript variant 2, mRNA [NM_003238]                 |
| A.23.P304171   | 2.351 | 1234 | 2.351 | KIAA0226       | Homo sapiens KIAA0226 (KIAA0226), transcript variant 1, mRNA [NM_001145642]   |

|                |       |       |       |    |                |   |
|----------------|-------|-------|-------|----|----------------|---|
| A_30_P0367924  | 2.351 | 1.233 | 2.351 | up | PABPN1L        | Homo sapiens poly(A) binding protein, nuclear 1-like (cytoplasmic) (PABPN1L), transcript variant 2, mRNA [NM_001284328]                       |
| A_23_P002586   | 2.351 | 1.233 | 2.351 | up | LINC00818      | Homo sapiens long intergenic non-protein coding RNA 518 (LINC00818), long non-coding RNA [RG_027793]  |
| A_23_P41715    | 2.349 | 1.232 | 2.349 | up | ORP2P          | Homo sapiens effector receptor, family 5, subfamily P, member 2 (ORP2P), mRNA [NM_153444]   |
| A_22_P00022547 | 2.349 | 1.232 | 2.349 | up | inc-FTTM-1     | GH93Y0 HUMAN (GH93Y0) OTHUMP0000031047 (R3P) domain (binds single-stranded nucleic acids) containing-like, partial (75) [TH0282097]           |
| A_33_P241595   | 2.349 | 1.232 | 2.349 | up | SFTLC3         | Homo sapiens serine palmitoyltransferase, long-chain base subunit 3 (SFTLC3), mRNA [NM_018327]  |
| A_33_P2428718  | 2.349 | 1.232 | 2.349 | up | SDT            | Homo sapiens isovaleryl-CoA dehydrogenase (VDI), transcript variant 2, mRNA [NM_0119508]  |
| A_33_P243282   | 2.347 | 1.231 | 2.347 | up | PPFKL1         | Homo sapiens phosphatidylinositol-4-phosphate 5-kinase-like 1 (PPFKL1), transcript variant 1, mRNA [NM_0138218]                               |
| A_33_P2414665  | 2.345 | 1.229 | 2.345 | up | MAP2           | Homo sapiens microtubule-associated protein 2 (MAP2), transcript variant 1, mRNA [NM_022274]  |
| A_23_P116037   | 2.344 | 1.229 | 2.344 | up | TMSF2          | Homo sapiens transmembrane 7 superfamily member 2 (TMSF2), transcript variant 1, mRNA [NM_003273]   |
| A_23_P237514   | 2.344 | 1.229 | 2.344 | up | CIorf38        | Homo sapiens chromosome 15 open reading frame 38 (CIorf38), mRNA [NM_0115492]   |
| A_21_P0011923  | 2.344 | 1.228 | 2.344 | up | WDPOD          | WD repeat containing protein, cytosolic (WDPOD), mRNA [NM_001284927]  |
| A_33_P244322   | 2.343 | 1.228 | 2.343 | up | BCL2L1         | BCL2-like 2 (BCL2L1), transcript variant 1, mRNA [NM_001282521]   |
| A_21_P001331   | 2.343 | 1.228 | 2.343 | up | ALOC12_013832  | BROAD Institute lincRNA ALOC12_013832, lincRNA [TCONS:IP_0024604]   |
| A_23_P240118   | 2.343 | 1.228 | 2.343 | up | VSG2           | Homo sapiens V-set and immunoglobulin domain containing 2 (VSG2), mRNA [NM_014312]  |
| A_33_P244859   | 2.343 | 1.228 | 2.343 | up | GNAS           | Homo sapiens GNAS complex locus (GNAS), transcript variant 7, mRNA [NM_01077489]  |
| A_24_P273686   | 2.342 | 1.228 | 2.342 | up | SCNG           | Homo sapiens cyclin G (SCNG), transcript variant 1, mRNA [NM_005190]  |
| A_23_P145187   | 2.342 | 1.228 | 2.342 | up | SNORA90A       | DB504787 BRAV43 Homo sapiens sRNA clone BRAV43089234 3', mRNA sequence [BS04787]  |
| A_33_P242722   | 2.342 | 1.228 | 2.342 | up | ZNF701         | Homo sapiens zinc finger protein 701 (ZNF701), transcript variant 1, mRNA [NM_01172655]   |
| A_33_P242620   | 2.342 | 1.228 | 2.342 | up | PMP1A3         | Homo sapiens parathyroid hormone-related protein 2 (PTHrP2), transcript variant 3, mRNA [NM_023229]   |
| A_23_P171914   | 2.342 | 1.228 | 2.342 | up | inc-ANKRD54-1  | 495991 chr16:104577-104577 Chromosome 15 SOAF1492, whole genome shotgun sequence (Fragment) [NC_016478]                                       |
| A_22_P00001271 | 2.341 | 1.228 | 2.341 | up | inc-CYBR2-1    | LINGPedia lincRNA, linc-CYBR2-1, lincRNA [inc-CYBR2-1]  |
| A_22_P00044818 | 2.341 | 1.227 | 2.341 | up | inc-CYBR2-1    | LINGPedia lincRNA, linc-CYBR2-1, lincRNA [inc-CYBR2-1]  |
| A_21_P0003789  | 2.341 | 1.227 | 2.341 | up | inc-POPEP1L-1  | LINGPedia lincRNA, linc-POPEP1L-1, lincRNA [inc-POPEP1L-1]  |
| A_23_P241780   | 2.341 | 1.227 | 2.341 | up | KLF7           | Homo sapiens Krueppel-like factor 7 (ubiquitous) (KLF7), transcript variant 1, mRNA [NM_003709]   |
| A_22_P0000385  | 2.340 | 1.227 | 2.340 | up | NETO1          | Homo sapiens neuropilin (NRP) and telod (TLL)-like 1 (NETO1), transcript variant 3, mRNA [NM_138966]  |
| A_22_P0010207  | 2.340 | 1.226 | 2.340 | up | LOC100606235   | PREDICTED: Homo sapiens uncharacterized LOC100606235 (LOC100606235), transcript variant X3, ncRNA [XR_245000]                                 |
| A_22_P00015487 | 2.340 | 1.226 | 2.340 | up | DA715718.NTRP2 | Homo sapiens sRNA clone AT2R12023082 5', mRNA sequence [DA715718]   |
| A_22_P00008020 | 2.339 | 1.226 | 2.339 | up | LOC101929089   | Homo sapiens uncharacterized LOC101929089 (LOC101929089), transcript variant 5, long non-coding RNA [NR_120576]                               |
| A_33_P2437621  | 2.339 | 1.226 | 2.339 | up | RHNP2          | Homo sapiens ribopholin, ribo GTPase binding protein 2 (RHNP2), mRNA [NM_033103]  |
| A_22_P00005524 | 2.338 | 1.225 | 2.338 | up | inc-EGE1L-2    | LINGPedia lincRNA, linc-EGE1L-2, lincRNA [inc-EGE1L-2]  |
| A_33_P232535   | 2.338 | 1.225 | 2.338 | up | POTEF          | Homo sapiens POTEF domain family member F (POTEF), mRNA [NM_01093771]   |
| A_24_P249220   | 2.337 | 1.225 | 2.337 | up | CEACAM4        | Homo sapiens carcinoembryonic antigen-related cell adhesion molecule 4 (CEACAM4), mRNA [NM_001817]  |
| A_33_P2463009  | 2.337 | 1.225 | 2.337 | up | SEACAD         | Homo sapiens secretory receptor cysteine rich family 4 domain 4 (SEACAD), mRNA [NM_000744]  |
| A_21_P001586   | 2.335 | 1.223 | 2.335 | up | ARTN           | Homo sapiens secretin (ARTN), transcript variant 4, mRNA [NM_051900]  |
| A_21_P0010663  | 2.334 | 1.223 | 2.334 | up | ALOC12_0101208 | BROAD Institute lincRNA ALOC12_0101208, lincRNA [TCONS:IP_0001638]  |
| A_33_P2323852  | 2.334 | 1.223 | 2.334 | up | SNR18A         | Homo sapiens family with sequence similarity 218, member A (FAM218), mRNA [NM_013300]   |
| A_24_P46725    | 2.333 | 1.222 | 2.333 | up | SNR18B         | Homo sapiens small nuclear ribonucleoprotein 480a (U1/U12) (SNR18B), mRNA [NM_152651]   |
| A_22_P00004475 | 2.331 | 1.221 | 2.331 | up | LOC101930019   | PREDICTED: Homo sapiens uncharacterized LOC101930019 (LOC101930019), ncRNA [XR_291537]  |
| A_33_P231569   | 2.331 | 1.221 | 2.331 | up | ARMG5          | Homo sapiens armadillo repeat containing 5 (ARMG5), transcript variant 2, mRNA [NM_024742]  |
| A_33_P248128   | 2.331 | 1.221 | 2.331 | up | ZEBF42         | Homo sapiens zinc finger and E1B domain containing 42 (ZEBF42), mRNA [NM_001137401]   |
| A_21_P0013751  | 2.331 | 1.221 | 2.331 | up | ALOC12_015441  | BROAD Institute lincRNA ALOC12_015441, lincRNA [TCONS:IP_00030126]  |
| A_23_P416142   | 2.330 | 1.221 | 2.330 | up | DLAG1          | Homo sapiens discs, large homolog 1 (Drosophila) (DLAG1), transcript variant 2, mRNA [NM_004887]  |
| A_24_P271795   | 2.330 | 1.220 | 2.330 | up | RAB43          | Homo sapiens RAB43, member RAS oncogene family (RAB43), transcript variant 1, mRNA [NM_199490]  |
| A_33_P245926   | 2.330 | 1.220 | 2.330 | up | SEMA6C         | Homo sapiens sema domain, transmembrane domain (TM), and cytoplasmic domain, (semaphorin) 6C (SEMA6C), transcript variant 2, mRNA [NM_030913] |
| A_33_P2458420  | 2.329 | 1.220 | 2.329 | up | LOC387810      | Homo sapiens uncharacterized LOC387810 (LOC387810), long non-coding RNA [NR_041155]   |
| A_21_P0009612  | 2.328 | 1.219 | 2.328 | up | TMEM119        | PREDICTED: Homo sapiens uncharacterized LOC100605797 (LOC100605797), transcript variant X1, mRNA [NM_001284925]                               |
| A_33_P2371760  | 2.328 | 1.218 | 2.328 | up | TMEM119        | TMEM119, transcript variant 1, mRNA [NM_001284925]  |
| A_33_P2354905  | 2.328 | 1.218 | 2.328 | up | TMEM258B       | Transmembrane protein 258B (TMEM258B), transcript variant 1, mRNA [NM_181724]   |
| A_33_P2452933  | 2.325 | 1.217 | 2.325 | up | inc-AGBL1-2    | Transmembrane protein 258B (Source:HGNC Symbol;Acc:HGNC:28297) [ENS:00000328563]  |
| A_21_P0000837  | 2.324 | 1.217 | 2.324 | up | inc-AGBL1-2    | LINGPedia lincRNA, linc-AGBL1-2, lincRNA [inc-AGBL1-2]  |
| A_22_P00006154 | 2.324 | 1.217 | 2.324 | up | inc-FAM182A-3  | LINGPedia lincRNA, linc-FAM182A-3, lincRNA [inc-FAM182A-3]  |
| A_32_P061150   | 2.323 | 1.216 | 2.323 | up | GTRB2          | Homo sapiens chymotrypsinogen B2 (GTRB2), mRNA [NM_001025200]   |
| A_22_P00023488 | 2.323 | 1.216 | 2.323 | up | inc-GUJPR1-4   | Homo sapiens sRNA clone HEMBA1001296, [AK074510]  |
| A_33_P2331085  | 2.323 | 1.216 | 2.323 | up | SEC24A         | Homo sapiens SEC24 family member A (SEC24A), transcript variant 1, mRNA [NM_021882]   |
| A_22_P00025404 | 2.322 | 1.216 | 2.322 | up | LSP1           | Homo sapiens lymphocyte-specific protein 1 (LSP1), transcript variant 5, mRNA [NM_001242932]  |
| A_22_P00019589 | 2.320 | 1.215 | 2.320 | up | GPTP           | Homo sapiens ceramide-1-phosphate transfer protein (GPTP), mRNA [NM_001029865]  |
| A_22_P00005532 | 2.320 | 1.214 | 2.320 | up | SFLT4A         | Homo sapiens solute carrier family 27 (fatty acid transporter), member 4 (SFLT4A), mRNA [NM_006094]   |
| A_23_P63281    | 2.319 | 1.214 | 2.319 | up | DDAI1          | Homo sapiens DDI1 and DDB1 associated 1 (DDAI1), mRNA [NM_024630]   |
| A_24_P262738   | 2.319 | 1.213 | 2.319 | up | TPRA1          | Homo sapiens inositol triphosphate 3-kinase gamma (TPKA), mRNA [NM_002729]  |
| A_23_P493118   | 2.318 | 1.213 | 2.318 | up | LOC101930019   | Homo sapiens long intergenic non-protein coding RNA 493118 (LOC101930019), mRNA [NM_024821]   |
| A_22_P00006530 | 2.317 | 1.212 | 2.317 | up | ACCF2-1        | UCV08 RNA, transcript variant 1, mRNA [NM_001284927]  |
| A_23_P46315    | 2.317 | 1.212 | 2.317 | up | DEFENB2C       | DEFENB2C, transcript variant 2C (Source:HGNC Symbol;Acc:HGNC:24348) [ENS:0000038227]  |
| A_23_P081951   | 2.316 | 1.212 | 2.316 | up | CSH1           | Homo sapiens chordin semaphorin domain 1 (chordin-like) (CSH1), mRNA [NM_001317]  |
| A_19_P00319663 | 2.316 | 1.212 | 2.316 | up | LINC00807      | long intergenic non-protein coding RNA 807 [Source:HGNC Symbol;Acc:HGNC:43944]  |
|                |       |       |       |    |                | [ENS:00000417922]   |

|                |      |      |      |                  |    |      |    |  |
|----------------|------|------|------|------------------|----|------|----|--|
| A_33_P3363246  | 2315 | 1211 | 2315 | OR2R1            | up | 2315 | up | Human olfactory receptor, family 32, subfamily R, member 1 (gene/pseudogene) (OR2R1), mRNA, NM_001005777   |
| A_24_P292245   | 2314 | 1211 | 2314 | ASPH             | up | 2314 | up | Human aspartate beta-hydroxylase (ASPH), transcript variant 4, mRNA, NM_022487   |
| A_22_P00002258 | 2313 | 1210 | 2313 |                  | up | 2313 | up | Human sialin, transcript variant 3, mRNA, NM_001773986   |
| A_33_P3306163  | 2313 | 1210 | 2313 | LQALS3           | up | 2313 | up | Human sialin, transcript variant 3, mRNA, NM_001773986   |
| A_33_P3306163  | 2312 | 1209 | 2312 |                  | up | 2312 | up | Human sialin, transcript variant 3, mRNA, NM_001773986   |
| A_23_P495027   | 2311 | 1209 | 2311 | BRM3             | up | 2311 | up | Human bromodomain protein 3 (BRM3), mRNA, NM_006743  |
| A_24_P188377   | 2311 | 1209 | 2311 | ODF5             | up | 2311 | up | Human olfactory domain factor 5 (ODF5), mRNA, NM_006524  |
| A_23_P30311    | 2311 | 1208 | 2311 | ITGAM1           | up | 2311 | up | Human integrin alpha M (ITGAM1), mRNA, NM_182919   |
| A_21_P0001654  | 2310 | 1208 | 2310 | INCENM12B-2      | up | 2310 | up | Human incenpinin 2 (INCENM12B-2), lincRNA, linc-INCENM12B-2  |
| A_33_P340324   | 2310 | 1208 | 2310 | GULP1            | up | 2310 | up | Human guanine nucleotide-binding protein G(I)/G(S)F1, transcript variant 2, mRNA, NM_001252668   |
| A_33_P3418910  | 2310 | 1208 | 2310 | HAP1             | up | 2310 | up | Human histone H1 protein 1 (HAP1), transcript variant 4, mRNA, NM_173977   |
| A_23_P22129    | 2309 | 1207 | 2309 | INC-FAM131B-1    | up | 2309 | up | Human incenpinin 1 (INC-FAM131B-1), lincRNA, linc-INC-FAM131B-1  |
| A_22_P00006060 | 2309 | 1207 | 2309 | LEH              | up | 2309 | up | Human leucine hydroxylase (LEH), mRNA, NM_030915   |
| A_33_P336286   | 2309 | 1207 | 2309 |                  | up | 2309 | up | Human leucine hydroxylase (LEH), mRNA, NM_030915   |
| A_33_P3401294  | 2306 | 1207 | 2306 | AMHD2            | up | 2306 | up | Human amide hydrolase 2 (AMHD2), transcript variant 1, mRNA, NM_019344   |
| A_33_P323719   | 2306 | 1207 | 2306 |                  | up | 2306 | up | Human amide hydrolase 2 (AMHD2), transcript variant 1, mRNA, NM_019344   |
| A_23_P356647   | 2307 | 1206 | 2307 | NFA15            | up | 2307 | up | Human nuclear factor of activated T-cells 5, tonically responsive (NFA15), transcript variant 1, mRNA, NM_139714                                       |
| A_33_P3708364  | 2307 | 1206 | 2307 |                  | up | 2307 | up | Human nuclear factor of activated T-cells 5, tonically responsive (NFA15), transcript variant 1, mRNA, NM_139714                                       |
| A_33_P6571454  | 2307 | 1206 | 2307 | ILDR2            | up | 2307 | up | Human interleukin receptor-like domain containing receptor 2 (SourceHGNC Symbol:AccHGNC:18131) (ILDR2), transcript variant 2, mRNA, NM_001092800       |
| A_33_P3368885  | 2306 | 1205 | 2306 | MROH1            | up | 2306 | up | Human mucrolysin-like repeat family member 1 (MROH1), transcript variant 2, mRNA, NM_001092800   |
| A_33_P3227212  | 2306 | 1205 | 2306 |                  | up | 2306 | up | Human mucrolysin-like repeat family member 1 (MROH1), transcript variant 2, mRNA, NM_001092800   |
| A_33_P3261027  | 2305 | 1205 | 2305 | LOC100289120     | up | 2305 | up | Human mucrolysin-like repeat family member 1 (MROH1), transcript variant 2, mRNA, NM_001092800   |
| A_21_P0003124  | 2305 | 1205 | 2305 | INC-GSKAR-5      | up | 2305 | up | Human incenpinin 5 (INC-GSKAR-5), lincRNA, linc-GSKAR-5  |
| A_33_P3249882  | 2305 | 1205 | 2305 | FAM2             | up | 2305 | up | Human family with sequence similarity 2 (FAM2), mRNA, NM_012308  |
| A_22_P00004505 | 2304 | 1204 | 2304 | INC-SSGAINACT1-2 | up | 2304 | up | Human incenpinin 2 (INC-SSGAINACT1-2), lincRNA, linc-SSGAINACT1-2  |
| A_33_P3381305  | 2304 | 1204 | 2304 |                  | up | 2304 | up | Human incenpinin 2 (INC-SSGAINACT1-2), lincRNA, linc-SSGAINACT1-2  |
| A_22_P00003844 | 2303 | 1203 | 2303 | LINC01273        | up | 2303 | up | Human long intergenic non-protein coding RNA 1273 (LINC01273), long non-coding RNA, NR_109843  |
| A_21_P0008910  | 2303 | 1203 | 2303 | LOC10192494      | up | 2303 | up | Human long intergenic non-protein coding RNA 1273 (LINC01273), long non-coding RNA, NR_109843  |
| A_23_P351      | 2301 | 1202 | 2301 | EPB41            | up | 2301 | up | Human erythrocyte membrane protein band 4.1 (EPB41), transcript variant 4, mRNA, NM_203342   |
| A_24_P299210   | 2301 | 1202 | 2301 | TTG39A           | up | 2301 | up | Human tetrahydropteridine repeat domain 39A (SourceHGNC Symbol:AccHGNC:18657) (TTG39A), transcript variant 1, mRNA, NM_004817                          |
| A_22_P0002295  | 2301 | 1202 | 2301 | INC-EFRA-3       | up | 2301 | up | Human incenpinin 3 (INC-EFRA-3), lincRNA, linc-EFRA-3  |
| A_33_P334345   | 2300 | 1201 | 2300 | WAPL1            | up | 2300 | up | Human warty family class 1 domain containing protein 1 (WAPL1), mRNA, NM_009306  |
| A_33_P3303664  | 2299 | 1201 | 2299 | SYNAP1           | up | 2299 | up | Human synaptonemal complex zinc finger 7 associated protein 1 (SYNAP1), mRNA, NM_173977  |
| A_33_P167225   | 2298 | 1199 | 2298 | CGAL2            | up | 2298 | up | Human chaperonin containing domain 2 (CGAL2), mRNA, NM_024124  |
| A_33_P687137   | 2295 | 1199 | 2295 | ZC3H18           | up | 2295 | up | Human zinc finger CCHC domain containing 18 (SourceHGNC Symbol:AccHGNC:32455) (ZC3H18), transcript variant 1, mRNA, NM_000017                          |
| A_23_P46022    | 2295 | 1199 | 2295 | ACADS            | up | 2295 | up | Human acyl-CoA dehydrogenase, C-2 to C-3 short chain (ACADS), transcript variant 1, mRNA, NM_000017  |
| A_23_P4933     | 2295 | 1198 | 2295 | LJF2             | up | 2295 | up | Human lens fiber protein 2 (LJF2), transcript variant 1, mRNA, NM_004817   |
| A_24_P114255   | 2295 | 1198 | 2295 | MBOT2            | up | 2295 | up | Human membrane bound O-acyltransferase domain containing 2 (MBOAT2), mRNA, NM_139799   |
| A_21_P0000851  | 2295 | 1198 | 2295 | INC-THSD4-2      | up | 2295 | up | Human incenpinin 2 (INC-THSD4-2), lincRNA, linc-THSD4-2  |
| A_22_P00008240 | 2294 | 1198 | 2294 | INC-ISC2A2-1     | up | 2294 | up | Human incenpinin 2 (INC-ISC2A2-1), lincRNA, linc-ISC2A2-1  |
| A_24_P44824    | 2294 | 1198 | 2294 | KIF1B            | up | 2294 | up | Human kinesin family member 1B (KIF1B), transcript variant 2, mRNA, NM_183416  |
| A_23_P126075   | 2293 | 1197 | 2293 | KCNK1            | up | 2293 | up | Human potassium channel, two pore domain subfamily K, member 1 (KCNK1), mRNA, NM_022445  |
| A_33_P3328913  | 2292 | 1197 | 2292 |                  | up | 2292 | up | Human potassium channel, two pore domain subfamily K, member 1 (KCNK1), mRNA, NM_022445  |
| A_24_P38783    | 2292 | 1196 | 2292 | LOX3             | up | 2292 | up | Human Williams-Beuren syndrome chromosome region 25, mRNA (cDNA clone MGC:161587 IMAGE592295), complete cds (BC126306)                                 |
| A_24_P74329    | 2290 | 1195 | 2290 | ZNF493           | up | 2290 | up | Human zinc finger protein 493 (ZNF493), transcript variant 3, mRNA, NM_022633  |
| A_21_P0010493  | 2290 | 1195 | 2290 | LOC246976        | up | 2290 | up | Human zinc finger protein 493 (ZNF493), transcript variant 3, mRNA, NM_022633  |
| A_32_P2011493  | 2290 | 1195 | 2290 | SEPT14-AS1       | up | 2290 | up | Human septin domain associated RNA 1 (SEPT14-AS1), long non-coding RNA, NR_124659  |
| A_24_P350245   | 2289 | 1195 | 2289 | DOCK3            | up | 2289 | up | Human dedicator of cytokinesis 3 (DOCK3), mRNA, NM_024940  |
| A_21_P0007248  | 2289 | 1194 | 2289 | INC-PDF11-1      | up | 2289 | up | Human incenpinin 1 (INC-PDF11-1), lincRNA, linc-PDF11-1  |
| A_33_P3375657  | 2288 | 1194 | 2288 | ASPSOR1          | up | 2288 | up | Human alveolar cell part sarcoma chromosome region, candidate 1 (SourceHGNC Symbol:AccHGNC:13825) (ASPSOR1), transcript variant 1, mRNA, NM_0000681608 |
| A_33_P3260686  | 2286 | 1194 | 2286 | AKR1G8P          | up | 2286 | up | Human alveolar cell part sarcoma chromosome region, candidate 1 (SourceHGNC Symbol:AccHGNC:13825) (AKR1G8P), transcript variant 1, mRNA, NM_022448     |
| A_21_P0010654  | 2286 | 1194 | 2286 | MMP25            | up | 2286 | up | Human matrix metalloproteinase 25 (MMP25), mRNA, NM_022448   |
| A_24_P19147    | 2287 | 1193 | 2287 | CORO1C           | up | 2287 | up | Human coronin, actin binding protein, 1C (CORO1C), transcript variant 2, mRNA, NM_014293   |
| A_33_P327171   | 2286 | 1193 | 2286 | GNOT3            | up | 2286 | up | Human GORX-NOT transcription complex, subunit 3 (SourceHGNC Symbol:AccHGNC:7879) (GNOT3), transcript variant 1, mRNA, NM_0000447684                    |
| A_21_P0007250  | 2286 | 1193 | 2286 | RAB30-AS1        | up | 2286 | up | Human Rab30 antisense RNA 1 (head to head) (RAB30-AS1), long non-coding RNA, NR_138903   |
| A_22_P00002019 | 2286 | 1193 | 2286 | MIR100HG         | up | 2286 | up | Human miR-100-let-7a-2 cluster host gene (non-protein coding) (MIR100HG), long non-coding RNA, NR_138903   |
| A_21_P0014564  | 2286 | 1193 | 2286 |                  | up | 2286 | up | Human miR-100-let-7a-2 cluster host gene (non-protein coding) (MIR100HG), long non-coding RNA, NR_138903   |
| A_22_P00016409 | 2285 | 1192 | 2285 | LOC550113        | up | 2285 | up | Human ubiquitin-protein ligase C, E3 (UBQLN3), transcript variant 1, mRNA, NM_012116   |
| A_23_P397910   | 2285 | 1192 | 2285 | CBLC             | up | 2285 | up | Human cbl cancer protein (CBLC), transcript variant 1, mRNA, NM_012116   |
| A_22_P00002802 | 2285 | 1192 | 2285 | LOC100133985     | up | 2285 | up | Human cbl cancer protein (CBLC), transcript variant 1, mRNA, NM_012116   |

|                |       |       |       |                        |  |
|----------------|-------|-------|-------|------------------------|--|
| A_30_P027462   | 2.285 | 1.192 | 2.285 | ADAD2                  | Homo sapiens adenosine deaminase domain containing 2 (ADAD2), transcript variant 1, mRNA [NM_138174]   |
| A_23_P166306   | 2.285 | 1.192 | 2.285 | CBES                   | Homo sapiens cytochrome-beta synthase (CBES), transcript variant 1, mRNA [NM_000711]   |
| A_23_P49041    | 2.285 | 1.192 | 2.285 | TMEIM2                 | Homo sapiens transmembrane protein 62 (TMEIM2), mRNA [NM_024896]   |
| A_21_P0010253  | 2.284 | 1.192 | 2.284 | INC-UMODL1-1           | INC-UMODL1, lincRNA [nc-UMODL1-1]  |
| A_33_P026120   | 2.284 | 1.191 | 2.284 | SLC17A5                | Homo sapiens solute carrier family 17 (sodium sugar transporter), member 5 (SLC17A5), mRNA [NM_012434]   |
| A_23_P001342   | 2.282 | 1.190 | 2.282 | DVL1                   | Homo sapiens dishevelled segment polarity protein 1 (DVL1), mRNA [NM_004421]   |
| A_32_P164488   | 2.281 | 1.190 | 2.281 | PHLDE3                 | Homo sapiens phosphatase homolog-like domain, family B, member 3 (PHLDE3), mRNA [NM_198660]  |
| A_21_P0007653  | 2.281 | 1.180 | 2.281 | SLCB2A2                | Homo sapiens solute carrier family 9, subfamily A (NHE2), cation proton antiporter 2, member 2 (SLCB2A2), mRNA [NM_009268]   |
| A_33_P026109   | 2.280 | 1.189 | 2.280 | INC-UCHL3-5            | INC-UCHL3-5, lincRNA [nc-UCHL3-5]  |
| A_21_P000882   | 2.280 | 1.189 | 2.280 | SLC9A9                 | Homo sapiens solute carrier family 9, subfamily A (NHE2), cation proton antiporter 2, member 2 (SLC9A9), mRNA [NM_009268]  |
| A_24_P000967   | 2.278 | 1.188 | 2.278 | JAK3                   | Homo sapiens Janus kinase 3 (JAK3), mRNA [NM_000245]   |
| A_33_P034320   | 2.278 | 1.188 | 2.278 | GPTP                   | Homo sapiens seramidase-1 phosphatase transfer protein (GPTP), mRNA [NM_001028886]   |
| A_23_P003488   | 2.277 | 1.187 | 2.277 | SMPD1                  | Homo sapiens sphingomyelin phosphodiesterase 1, acid lysosomal (SMPD1), transcript variant 1, mRNA [NM_000543]   |
| A_33_P026233   | 2.275 | 1.186 | 2.275 | INC-GTF2F2-2           | Synthetic construct Homo sapiens gataway, clone IMAGE100021467 3' read, TOBI, mRNA [CU692315]  |
| A_33_P081652   | 2.275 | 1.186 | 2.275 | ASAP1-IT1              | Homo sapiens ASAP1 intronic transcript 1 (non-protein coding) (ASAP1-IT1), long non-coding RNA [NR_002765]   |
| A_23_P146325   | 2.275 | 1.186 | 2.275 | INC-C22orf26-2         | INC-C22orf26-2, lincRNA [nc-C22orf26-2]  |
| A_21_P0010482  | 2.275 | 1.186 | 2.275 | ARGG1                  | Homo sapiens ArgGAP with EG repeats 1 (ARGG1), transcript variant 1, mRNA [NM_001135197]   |
| A_33_P026953   | 2.273 | 1.184 | 2.273 | ORRC6B                 | Homo sapiens oryctolama receptor, family 6, subfamily G, member 6B (ORRC6B), mRNA [NM_0005519]   |
| A_33_P024587   | 2.273 | 1.184 | 2.273 | FAZT14B                | Homo sapiens family with sequence similarity 214, member B (FAM214B), mRNA [NM_025102]   |
| A_24_P040762   | 2.273 | 1.184 | 2.273 | PHLDA1                 | Homo sapiens phosphatase homolog-like domain, family A, member 1 (PHLDA1), mRNA [NM_007380]  |
| A_24_P015682   | 2.272 | 1.184 | 2.272 | CXorf66                | Homo sapiens chromosome X open reading frame 36 (CXorf66), transcript variant 1, mRNA [NM_170318]  |
| A_33_P0263925  | 2.272 | 1.184 | 2.272 | SGOL1-AS1              | Homo sapiens SGOL1 antisense RNA 1 (SGOL1-AS1), long non-coding RNA [NR_048728]  |
| A_22_P00008249 | 2.271 | 1.183 | 2.271 | SUT-HORG               | SUT-HORG, Rho GTPase activating protein 2 [Source:HGNC Symbol;Acc:HGNC:19751]  |
| A_33_P0246022  | 2.271 | 1.183 | 2.271 | DRGH1                  | Homo sapiens aspartate-rich 1 (DRGH1), mRNA [NM_016448]  |
| A_24_P01701    | 2.269 | 1.182 | 2.269 | HSP90AA1               | Homo sapiens heat shock protein 90Da alpha (cytosolic), class A member 1 (HSP90AA1), transcript variant 1, mRNA [NM_001078933]   |
| A_33_P0665777  | 2.269 | 1.182 | 2.269 | DRGH1                  | Homo sapiens heat shock protein 90Da alpha (cytosolic), class A member 1 (HSP90AA1), transcript variant 1, mRNA [NM_001078933]   |
| A_23_P100344   | 2.267 | 1.181 | 2.267 | ORC6                   | Homo sapiens origin recognition complex, subunit 6 (ORC6), transcript variant 1, mRNA [NM_014421]  |
| A_23_P131534   | 2.267 | 1.181 | 2.267 | GRF45                  | Homo sapiens G protein-coupled receptor 45 (GRF45), mRNA [NM_007272]   |
| A_23_P08328    | 2.267 | 1.181 | 2.267 | ENG                    | Homo sapiens endoglin (ENG), transcript variant 2, mRNA [NM_000118]  |
| A_23_P041408   | 2.266 | 1.180 | 2.266 | FLCN                   | Homo sapiens folliculin (FLCN), transcript variant 2, mRNA [NM_144606]   |
| A_21_P0003241  | 2.266 | 1.180 | 2.266 | INC-C3orf38-2          | INC-C3orf38-2, lincRNA [nc-C3orf38-2]  |
| A_23_P155556   | 2.265 | 1.180 | 2.265 | CLDN1                  | Homo sapiens claudin domain containing 1 (CLDN1), transcript variant 6, mRNA [NM_001040199]  |
| A_22_P00019518 | 2.264 | 1.179 | 2.264 | INC-01494              | Homo sapiens long intergenic non-protein coding RNA 1494 (LINCO1494), long non-coding RNA [NR_110238]  |
| A_23_P026249   | 2.264 | 1.179 | 2.264 | KRT16B                 | Homo sapiens keratin 6B, type II (KRT6B), mRNA [NM_005555]   |
| A_33_P021044   | 2.264 | 1.178 | 2.264 | COL12A2                | Homo sapiens collagen, type XI, alpha 2 (COL12A2), transcript variant 4, mRNA [NM_001103711]   |
| A_33_P040836   | 2.264 | 1.178 | 2.264 | KGMT-AS1               | PREDIGED: Homo sapiens uncharacterized LOC101928228 LOC101928228, mRNA [XR_246137]   |
| A_33_P0408232  | 2.264 | 1.178 | 2.264 | HS1BP3                 | Homo sapiens HSL1 binding protein 3, mRNA (cDNA clone IMAGE 6066200), with apparent related intro, [BC838847]  |
| A_33_P034282   | 2.263 | 1.178 | 2.263 | YPEL1                  | Homo sapiens yescs-like 1 (Drosophila)(YPEL1), mRNA [NM_013313]  |
| A_33_P0251685  | 2.262 | 1.178 | 2.262 | INC-C1D-2623D.13.1.1-5 | DB281014 UTR33 Homo sapiens cDNA clone UTR33007848 5' mRNA sequence [DB281014]   |
| A_21_P0007284  | 2.262 | 1.177 | 2.262 | SEMA6G                 | Homo sapiens sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (Semaphorin) 6G (SEMA6G), transcript variant 1, mRNA [NM_017893] |
| A_23_P127068   | 2.262 | 1.177 | 2.262 | ASCS4                  | Homo sapiens acid sensing (gated) ion channel family member 4 (ASCS4), mRNA [NM_182847]  |
| A_33_P0250720  | 2.261 | 1.177 | 2.261 | ATPK                   | Homo sapiens alpha thalassaemia/mental retardation syndrome X-linked (ATPK), transcript variant 1, mRNA [NM_000489]  |
| A_33_P0360311  | 2.260 | 1.176 | 2.260 | ATPK                   | Homo sapiens alpha thalassaemia/mental retardation syndrome X-linked (ATPK), transcript variant 1, mRNA [NM_000489]  |
| A_24_P049260   | 2.260 | 1.176 | 2.260 | SPTLC3                 | Homo sapiens serine palmitoyltransferase, long chain base subunit 3 (SPTLC3), mRNA [NM_018327]   |
| A_23_P107687   | 2.259 | 1.176 | 2.259 | NPC1                   | Homo sapiens Niemann-Pick disease, type C1 (NPC1), mRNA [NM_000271]  |
| A_24_P044588   | 2.259 | 1.175 | 2.259 | INSIG2                 | Homo sapiens insulin induced gene 2 (INSIG2), mRNA [NM_016133]   |
| A_22_P00001856 | 2.257 | 1.174 | 2.257 | ADAMTS-AS2             | Homo sapiens ADAMTS antisense RNA 2 (ADAMTS-AS2), long non-coding RNA [NR_039264]  |
| A_24_P186216   | 2.256 | 1.174 | 2.256 | PDSSA                  | Homo sapiens PDSS cohesin associated factor A (PDSSA), transcript variant 3, mRNA [NM_001004001]   |
| A_23_P052101   | 2.256 | 1.174 | 2.256 | CYBBF1                 | Homo sapiens chromosome B5, radiation 1 (CYBBF1), mRNA [NM_016243]   |
| A_23_P021051   | 2.256 | 1.174 | 2.256 | SALRF2                 | Homo sapiens SALRF domain containing 2 (SALRF2), mRNA [NM_022739]  |
| A_22_P0018809  | 2.256 | 1.174 | 2.256 | INC-ZNF177-1           | INC-ZNF177-1, lincRNA [nc-ZNF177-1]  |
| A_23_P0203181  | 2.256 | 1.174 | 2.256 | ARPA1                  | Homo sapiens arylacetate A-1 (ARPA1), mRNA [NM_000838]   |
| A_21_P0011702  | 2.256 | 1.173 | 2.256 | INC-N19C-2             | BROAD Institute lincRNA.N19C.2.067888.lincRNA [IGCNS.2.00012855]   |
| A_22_P0001020  | 2.255 | 1.173 | 2.255 | INC-N19C-2             | INC-N19C-2, lincRNA [nc-N19C-2]  |
| A_33_P0269487  | 2.255 | 1.173 | 2.255 | AMIL1                  | Homo sapiens absent in melanoma 1-like (AMIL1), mRNA [NM_00103975]   |
| A_23_P025515   | 2.255 | 1.173 | 2.255 | RP9                    | Homo sapiens retinoblastoma 9 (autosomal dominant) (RP9), mRNA [NM_203286]   |
| A_22_P176550   | 2.253 | 1.172 | 2.253 | JMY                    | Homo sapiens junction mediating and regulatory protein, F53 cofactor (JMY), mRNA [NM_152405]   |
| A_23_P032271   | 2.252 | 1.172 | 2.252 | TEX28                  | Homo sapiens testis expressed 28 (TEX28), mRNA [NM_152223]   |
| A_33_P0413066  | 2.250 | 1.170 | 2.250 | ORFEP7P                | Homo sapiens orfery receptor, family 7, subfamily E, member 47 pseudogene (ORFEP7P), transcript variant 1, non-coding RNA [NR_128437]  |
| A_21_P0005953  | 2.249 | 1.170 | 2.249 | INC-KRBA1-1            | INC-KRBA1-1, lincRNA [nc-KRBA1-1]  |
| A_23_P124078   | 2.249 | 1.169 | 2.249 | DDYL                   | Homo sapiens chromodomain protein, Y-like (DDYL), transcript variant 1, mRNA [NM_004924]   |
| A_19_P00319631 | 2.249 | 1.169 | 2.249 | INC-MAGC3-1            | INC-MAGC3-1, lincRNA [nc-MAGC3-1]  |
| A_33_P0381666  | 2.248 | 1.169 | 2.248 | ABLIM2                 | Homo sapiens actin binding LIM protein family, member 2 (ABLIM2), transcript variant 1, mRNA [NM_001130086]  |
| A_19_P00323025 | 2.248 | 1.168 | 2.248 | LINC00881              | Homo sapiens actin binding LIM protein family, member 2 (ABLIM2), transcript variant 1, mRNA [NM_001130086]  |
| A_33_P0228132  | 2.247 | 1.168 | 2.247 | LRRRC74B               | Homo sapiens leucine rich repeat containing 74B (LRRRC74B), transcript variant 1, mRNA [NM_000866196]  |
| A_33_P0232825  | 2.247 | 1.168 | 2.247 | PFRBP1                 | Homo sapiens protein coding RNA 881 [Source:HGNC Symbol;Acc:HGNC:46857]  |
| A_23_P141304   | 2.246 | 1.168 | 2.246 | WIP1                   | Homo sapiens WD repeat domain, phosphoinositide interacting 1 (WIP1), mRNA [NM_0107983]  |
| A_33_P0343685  | 2.246 | 1.168 | 2.246 | GRIN2A                 | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A), transcript variant 1, mRNA [NM_001134407]   |





|                |       |       |       |    |   |
|----------------|-------|-------|-------|----|---|
| A_33_P0261005  | 2:209 | 1:143 | 2:209 | up | BT008812 transcription factor-like 4 [Homo sapiens] (exp=1 wgs=0, cpg=0), partial (73%) [TCH24836382]                               |
| A_33_P0367861  | 2:208 | 1:143 | 2:208 | up | Homo sapiens family with sequence similarity 107, member B (FAM107B), transcript variant 1, mRNA [NM_001292689]                     |
| A_33_P0384667  | 2:208 | 1:143 | 2:208 | up | Homo sapiens DDB1 and CUL4 associated factor 5 (DCAF5), transcript variant 4, mRNA [NM_001284298]                                   |
| A_23_P099102   | 2:208 | 1:143 | 2:208 | up | Homo sapiens MYO1D (MYO1D), transcript variant 1, mRNA [NM_015194]  |
| A_24_P099511   | 2:207 | 1:142 | 2:207 | up | Homo sapiens RELT tumor necrosis factor receptor (RELT), transcript variant 1, mRNA [NM_028971]                                     |
| A_33_P0368663  | 2:207 | 1:142 | 2:207 | up | Homo sapiens myosin IX, alpha 3 (MYO9A), transcript variant 4, mRNA [NM_00171945]   |
| A_23_P11380    | 2:207 | 1:142 | 2:207 | up | Homo sapiens myosin IX, alpha 3 (MYO9A), transcript variant 4, mRNA [NM_00171945]   |
| A_23_P161615   | 2:207 | 1:142 | 2:207 | up | Homo sapiens myosin IX, alpha 3 (MYO9A), transcript variant 4, mRNA [NM_00171945]   |
| A_22_P00008804 | 2:205 | 1:141 | 2:205 | up | Homo sapiens myosin IX, alpha 3 (MYO9A), transcript variant 4, mRNA [NM_00171945]   |
| A_33_P0314574  | 2:205 | 1:141 | 2:205 | up | Homo sapiens myosin IX, alpha 3 (MYO9A), transcript variant 4, mRNA [NM_00171945]   |
| A_24_P418809   | 2:205 | 1:141 | 2:205 | up | Homo sapiens myosin IX, alpha 3 (MYO9A), transcript variant 4, mRNA [NM_00171945]   |
| A_33_P0321382  | 2:205 | 1:141 | 2:205 | up | Homo sapiens myosin IX, alpha 3 (MYO9A), transcript variant 4, mRNA [NM_00171945]   |
| A_22_P00008837 | 2:204 | 1:140 | 2:204 | up | LINCpedia lincRNA (linc-JOSD1-1), lincRNA [linc-JOSD1-1]  |
| A_33_P0340769  | 2:203 | 1:139 | 2:203 | up | Homo sapiens ADAM metallopeptidase domain 9 (ADAM9), transcript variant 1, mRNA [NM_003816]   |
| A_22_P00007287 | 2:202 | 1:139 | 2:202 | up | LINCpedia lincRNA (linc-GPR3-2), lincRNA [linc-GPR3-2]  |
| A_33_P0361445  | 2:201 | 1:138 | 2:201 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_33_P0271445  | 2:201 | 1:138 | 2:201 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_33_P0270639  | 2:201 | 1:138 | 2:201 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_23_P145657   | 2:199 | 1:137 | 2:199 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_21_P0002452  | 2:199 | 1:137 | 2:199 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_23_P413006   | 2:198 | 1:136 | 2:198 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_32_P42946    | 2:198 | 1:136 | 2:198 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_23_P024716   | 2:197 | 1:136 | 2:197 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_23_P10657    | 2:197 | 1:135 | 2:197 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_33_P032989   | 2:197 | 1:135 | 2:197 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_23_P030713   | 2:196 | 1:135 | 2:196 | up | Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 3, mRNA [NM_001130105] |
| A_23_P264079   | 2:195 | 1:134 | 2:195 | up | Homo sapiens immunoglobulin mu binding protein 2 (IGHMBP2), mRNA [NM_002180]  |
| A_22_P00011809 | 2:195 | 1:134 | 2:195 | up | Homo sapiens starch binding domain 1 (STBD1), mRNA [NM_003943]  |
| A_33_P0252785  | 2:193 | 1:133 | 2:193 | up | DB00210 TESTA Homo sapiens cDNA clone TESTA1602566.5, mRNA sequence [DB00210]   |
| A_23_P04086    | 2:193 | 1:133 | 2:193 | up | placental-specific 9 [Source:HGNC Symbol;Acc:NCBI] [ENS:0000037293]   |
| A_24_P267075   | 2:193 | 1:133 | 2:193 | up | Homo sapiens interleukin 9 receptor (IL9R), transcript variant 2, mRNA [NM_176788]  |
| A_23_P295632   | 2:193 | 1:133 | 2:193 | up | Homo sapiens mitogen-activated protein kinase kinase kinase 2 (MAP4K2), mRNA [NM_004579]  |
| A_23_P70095    | 2:192 | 1:133 | 2:192 | up | Homo sapiens mitogen-activated protein kinase kinase kinase 2 (MAP4K2), mRNA [NM_004579]  |
| A_23_P03152    | 2:192 | 1:133 | 2:192 | up | Homo sapiens mitogen-activated protein kinase kinase kinase 2 (MAP4K2), mRNA [NM_004579]  |
| A_23_P253755   | 2:191 | 1:132 | 2:191 | up | Homo sapiens mitogen-activated protein kinase kinase kinase 2 (MAP4K2), mRNA [NM_004579]  |
| A_23_P41305    | 2:190 | 1:131 | 2:190 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P030183   | 2:189 | 1:131 | 2:189 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_21_P0011637  | 2:188 | 1:130 | 2:188 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P04631    | 2:187 | 1:129 | 2:187 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P006441   | 2:187 | 1:129 | 2:187 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P140256   | 2:187 | 1:129 | 2:187 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P0421515  | 2:187 | 1:129 | 2:187 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_22_P00009616 | 2:186 | 1:128 | 2:186 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P001831   | 2:186 | 1:128 | 2:186 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_19_P00318375 | 2:185 | 1:128 | 2:185 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P04601    | 2:185 | 1:127 | 2:185 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P21134    | 2:185 | 1:127 | 2:185 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_32_P146859   | 2:184 | 1:127 | 2:184 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_22_P00022844 | 2:184 | 1:127 | 2:184 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_24_P70180    | 2:184 | 1:127 | 2:184 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_22_P00022840 | 2:184 | 1:127 | 2:184 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_33_P0214436  | 2:183 | 1:126 | 2:183 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_33_P0398922  | 2:183 | 1:126 | 2:183 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P027990   | 2:182 | 1:126 | 2:182 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_22_P00002009 | 2:181 | 1:125 | 2:181 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P42071    | 2:181 | 1:125 | 2:181 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_33_P0218651  | 2:181 | 1:125 | 2:181 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_24_P114249   | 2:180 | 1:124 | 2:180 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_22_P00009152 | 2:180 | 1:124 | 2:180 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_21_P0013908  | 2:179 | 1:123 | 2:179 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P152620   | 2:178 | 1:123 | 2:178 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_33_P031948   | 2:178 | 1:123 | 2:178 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_33_P0281776  | 2:177 | 1:122 | 2:177 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_23_P127460   | 2:177 | 1:122 | 2:177 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_33_P0313640  | 2:176 | 1:121 | 2:176 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_32_P019718   | 2:175 | 1:121 | 2:175 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_22_P00015430 | 2:175 | 1:121 | 2:175 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_24_P005038   | 2:175 | 1:121 | 2:175 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |
| A_24_P036863   | 2:175 | 1:121 | 2:175 | up | Homo sapiens zinc finger CCHC-type, antiviral 1-like (ZC3HAV1), mRNA [NM_006060]  |

|                |       |       |       |                                      |  |
|----------------|-------|-------|-------|--------------------------------------|--|
| A_24_P00532    | 2.174 | 1.120 | 2.174 | CGNG2                                | Homo sapiens cyclin G2 (CGNG2), mRNA [NM_004354]   |
| A_33_P2383866  | 2.173 | 1.120 | 2.173 | SPFG                                 | Homo sapiens SPFG complex locus (SPFG), transcript variant 1, mRNA [NM_006876]   |
| A_33_P2392821  | 2.173 | 1.120 | 2.173 | CTIN                                 | Homo sapiens cofilin (CTIN), transcript variant 3, mRNA [NM_001184740]   |
| A_19_P00801752 | 2.173 | 1.120 | 2.173 | inc-SK1-2                            | LINEgela lincRNA (inc-SK1-2), lincRNA [inc-SK1-2-1]  |
| A_33_P2416892  | 2.172 | 1.119 | 2.172 | C22orf91                             | Homo sapiens chromosome 2 open reading frame 91 (C22orf91), mRNA [NM_001242815]  |
| A_22_P00023392 | 2.171 | 1.119 | 2.171 | LOG100506526                         | Homo sapiens uncharacterized LOC100506526 (LOC100506526), long non-coding RNA [NR_109000]  |
| A_33_P2414412  | 2.171 | 1.118 | 2.171 | ORAS                                 | Homo sapiens effector receptor, family 4, subfamily A, member 5 (ORAS), mRNA [NM_001063272]  |
| A_23_P27978    | 2.171 | 1.118 | 2.171 | WNT11E                               | Homo sapiens hitone cluster 1, Hic (WNT11E), mRNA [NM_000392]  |
| A_23_P163455   | 2.171 | 1.118 | 2.171 | MBP1A                                | Homo sapiens microtubule-associated protein 1A (MBP1A), mRNA [NM_002323]   |
| A_23_P163088   | 2.171 | 1.118 | 2.171 | LAMC2                                | Homo sapiens lamin, gamma 2 (LAMC2), transcript variant 2, mRNA [NM_016881]  |
| A_22_P0012625  | 2.169 | 1.117 | 2.169 | inc-TMED3-1                          | Homo sapiens lincRNA (inc-TMED3-1), lincRNA [inc-TMED3-1-1]  |
| A_33_P249780   | 2.169 | 1.117 | 2.169 | SMCO1                                | Homo sapiens SMCO1-like protein with coiled-coil domains 1 (SMCO1), mRNA [NM_001078657]  |
| A_23_P111240   | 2.168 | 1.117 | 2.168 | PHACTR2                              | Homo sapiens phosphatase and actin regulator 2 (PHACTR2), transcript variant 3, mRNA [NM_014721]   |
| A_33_P240886   | 2.168 | 1.117 | 2.168 | KANK1                                | Homo sapiens KANK motif and ankyrin repeat domains 1 (KANK1), transcript variant 4, mRNA [NM_00258877]   |
| A_23_P156732   | 2.168 | 1.116 | 2.168 | PHF1                                 | Homo sapiens PHF finger protein 1 (PHF1), transcript variant 2, mRNA [NM_024105]   |
| A_23_P247426   | 2.167 | 1.116 | 2.167 | ACAD8                                | Homo sapiens acyl-CoA dehydrogenase family, member 8 (ACAD8), mRNA [NM_014384]   |
| A_33_P243458   | 2.167 | 1.116 | 2.167 | BZM1                                 | Homo sapiens basic leucine zipper and W2 domains 1 (BZM1), transcript variant 2, mRNA [NM_001207088]   |
| A_21_P0008059  | 2.166 | 1.115 | 2.166 | SLITRK5                              | SLIT and NTRK-like family, member 5 [Source:HGNC Symbol;Acc:HGNC:20295] [ENS:00000292689]  |
| A_33_P2495310  | 2.166 | 1.115 | 2.166 | STGAL4                               | Homo sapiens ST3 beta-galactoside alpha-2,3-sialyltransferase 4 (STGAL4), transcript variant 1, mRNA [NM_006278]   |
| A_24_P237235   | 2.165 | 1.114 | 2.165 | zinc finger protein 720 pseudogene 1 | [Source:HGNC Symbol;Acc:HGNC:34559] [ENS:00000582403]  |
| A_19_P0032593  | 2.164 | 1.114 | 2.164 | inc-FAM168B-1                        | LINEgela lincRNA (inc-FAM168B-1), lincRNA [inc-FAM168B-1-1]  |
| A_23_P2402864  | 2.162 | 1.112 | 2.162 | inc-FAM168B-1                        | LINEgela lincRNA (inc-FAM168B-1), lincRNA [inc-FAM168B-1-1]  |
| A_22_P00012614 | 2.162 | 1.112 | 2.162 | GPATCH2                              | Homo sapiens G patch domain containing 2 (GPATCH2), transcript variant 1, mRNA [NM_018640]   |
| A_23_P247157   | 2.161 | 1.112 | 2.161 | GPAS3                                | Homo sapiens G-protein signaling mediator 3 (GPAS3), transcript variant 2, mRNA [NM_022107]  |
| A_23_P218060   | 2.161 | 1.111 | 2.161 | TP53BP1                              | Homo sapiens tumor protein p53 inducible protein 1 (TP53BP1), transcript variant 1, mRNA [NM_001258320]  |
| A_23_P150281   | 2.160 | 1.111 | 2.160 | RAC2                                 | Homo sapiens ras-related G3 betulinum toxin substrate 2 (rho family, small GTP binding protein Rac2) (RAC2), mRNA [NM_002812]                                  |
| A_24_P274516   | 2.160 | 1.111 | 2.160 | TMS64K                               | Homo sapiens thymosin beta 4, X-linked (TMS64K), mRNA [NM_021109]  |
| A_33_P2478514  | 2.159 | 1.111 | 2.159 | PDE5A                                | Homo sapiens phosphodiesterase 5A, cGMP-specific (PDE5A), transcript variant 1, mRNA [NM_0010083]  |
| A_33_P247280   | 2.159 | 1.111 | 2.159 | SIRPB2                               | Homo sapiens signal-regulatory protein beta 2 (SIRPB2), transcript variant 1, mRNA [NM_001122862]  |
| A_33_P247361   | 2.159 | 1.110 | 2.159 | OTX1                                 | Homo sapiens orthodenticle homeobox 1 (OTX1), transcript variant 2, mRNA [NM_001199770]  |
| A_33_P249342   | 2.158 | 1.110 | 2.158 | ARSDA                                | Homo sapiens AT-rich interactive domain 5A (WRF1-like) (ARSDA), mRNA [NM_001212481]  |
| A_32_P229746   | 2.158 | 1.109 | 2.158 | DNAJB6                               | Homo sapiens DNAJ (Hsp40) homolog, subfamily B, member 6 (DNAJB6), transcript variant 2, mRNA [NM_006494]  |
| A_22_P0021349  | 2.157 | 1.109 | 2.157 | LOC102887848                         | Homo sapiens uncharacterized LOC102887848 (LOC102887848), long non-coding RNA [NR_046343]  |
| A_22_P0021322  | 2.157 | 1.109 | 2.157 | LOC102870711                         | Homo sapiens lincRNA (inc-LOC102870711), lincRNA [inc-LOC102870711-1]  |
| A_33_P241442   | 2.157 | 1.109 | 2.157 | CD224C                               | Homo sapiens CD224-cellular adhesion molecule 4C (CD224C), mRNA [NM_001136283]   |
| A_33_P2493057  | 2.157 | 1.109 | 2.157 | SPIRE 1                              | Homo sapiens SPIRE-type type actin nucleation factor 1 (SPIRE1), transcript variant 1, mRNA [NM_001128826]   |
| A_23_P14829    | 2.157 | 1.109 | 2.157 | TACS1D2                              | Homo sapiens tumor-associated calcium signal transducer 2 (TACS1D2), mRNA [NM_002353]  |
| A_33_P2718407  | 2.157 | 1.109 | 2.157 | MLL74                                | Homo sapiens myeloid/lymphoid or mixed-lineage leukemia (crithaker) homolog, Drosophila, translocated to, 4 (MLL74), transcript variant 1, mRNA [NM_001207008] |
| A_22_P407074   | 2.156 | 1.108 | 2.156 | DNM2                                 | Homo sapiens dynamin 2 (DNM2), transcript variant 1, mRNA [NM_001005930]   |
| A_33_P232355   | 2.156 | 1.108 | 2.156 | TOHM34                               | Homo sapiens translocase of outer mitochondrial membrane 34 (TOM34), mRNA [NM_008809]  |
| A_22_P00020717 | 2.156 | 1.108 | 2.156 | inc-TMEM128B-2                       | G75GJ3 ASHG0 (G75GJ3) AGL07Amp, partial (93) [TIC92732794]   |
| A_21_P0006748  | 2.156 | 1.108 | 2.156 | PROSER2                              | PREDICTED: Homo sapiens zinc finger protein 248 (ZNF248), transcript variant X9, misc. RNA [XR_428649]   |
| A_24_P249808   | 2.155 | 1.107 | 2.155 | PROSER2                              | Homo sapiens proline and serine rich 2 (PROSER2), mRNA [NM_159256]   |
| A_23_P14028    | 2.155 | 1.107 | 2.155 | inc-DHX37-5                          | Homo sapiens transmembrane channel-like 7 (TM7), transcript variant 1, mRNA [NM_024847]  |
| A_21_P007780   | 2.154 | 1.107 | 2.154 | inc-DHX37-5                          | LINEgela lincRNA (inc-DHX37-5), lincRNA [inc-DHX37-5-2]  |
| A_24_P200000   | 2.153 | 1.107 | 2.153 | STPA3                                | Homo sapiens STEAR family member 3, metallothionein (STPA3), transcript variant 1, mRNA [NM_162915]  |
| A_23_P271846   | 2.153 | 1.106 | 2.153 | GSRY7                                | Homo sapiens G-box and SRY7 domain, epithelial (GSRY7), mRNA [NM_017768]   |
| A_22_P24519    | 2.153 | 1.106 | 2.153 | GALB2                                | Homo sapiens galactose 4-epimerase 2 (GALB2), mRNA [NM_145548]   |
| A_22_P0012007  | 2.153 | 1.106 | 2.153 | inc-FNMA2-1                          | LINEgela lincRNA (inc-FNMA2-1), lincRNA [inc-FNMA2-1-1]  |
| A_33_P2344624  | 2.152 | 1.106 | 2.152 | LOC101829834                         | PREDICTED: Homo sapiens uncharacterized LOC101829834 (LOC101829834), misc. RNA [XR_248823]   |
| A_33_P230286   | 2.152 | 1.106 | 2.152 | PLGB4                                | Homo sapiens phospholipase C, beta 4 (PLGB4), transcript variant 3, mRNA [NM_001172646]  |
| A_33_P2626834  | 2.152 | 1.106 | 2.152 | PLGB4                                | DA456894 CTONG3 Homo sapiens cDNA clone CTONG302005.5, mRNA sequence [DA456894]  |
| A_22_P00021552 | 2.151 | 1.105 | 2.151 | inc-CGN-1                            | BROAD Institute lincRNA (inc-CGN-1), lincRNA [CGN-1]   |
| A_33_P2026404  | 2.151 | 1.105 | 2.151 | ALOC12.006173                        | BROAD Institute lincRNA (ALOC12.006173), lincRNA [TCNS12.00011427]   |
| A_22_P00019616 | 2.151 | 1.105 | 2.151 | inc-KBTBD5-1                         | DA134487 BRALZ2 Homo sapiens cDNA clone BRALZ2007118.5, mRNA sequence [DA134487]   |
| A_19_P00318848 | 2.151 | 1.105 | 2.151 | MRLP23-AS1                           | Homo sapiens MRLP23 antisense RNA 1 (MRLP23-AS1), long non-coding RNA [NR_024471]  |
| A_22_P00010076 | 2.151 | 1.105 | 2.151 | SFTPA2                               | long intergenic non-protein coding RNA 390 [Source:HGNC Symbol;Acc:HGNC:4268]  |
| A_33_P2434574  | 2.150 | 1.104 | 2.150 | AHNAK                                | Homo sapiens surfactant protein A2 (SFTPA2), mRNA [NM_001098688]   |
| A_23_P21383    | 2.150 | 1.104 | 2.150 | AHNAK                                | Homo sapiens AHNAK nucleoprotein (AHNAK), transcript variant 2, mRNA [NM_024060]   |
| A_21_P0013441  | 2.149 | 1.104 | 2.149 | RABGEF1                              | Homo sapiens RAB guanine nucleotide exchange factor (GEP) 1 (RABGEF1), transcript variant 1, mRNA [NM_001232060]   |
| A_22_P00011151 | 2.148 | 1.104 | 2.148 | inc-OBFC2A-1                         | LINEgela lincRNA (inc-OBFC2A-1), lincRNA [inc-OBFC2A-1-1]  |
| A_23_P28223    | 2.148 | 1.103 | 2.148 | ASL                                  | Homo sapiens arylsulfatase yeast (ASL), transcript variant 1, mRNA [NM_001024940]  |
| A_24_P243386   | 2.148 | 1.103 | 2.148 | TCOF1                                | Homo sapiens tuberous sclerosis 1 (TSC1), transcript variant 3, mRNA [NM_001008467]  |
| A_22_P0024647  | 2.148 | 1.103 | 2.148 | inc-APOC3-6                          | LINEgela lincRNA (inc-APOC3-6), lincRNA [inc-APOC3-6-1]  |
| A_23_P258701   | 2.148 | 1.103 | 2.148 | AREG                                 | Homo sapiens amphiregulin (AREG), mRNA [NM_0010527]  |
| A_23_P310257   | 2.148 | 1.103 | 2.148 | KLK2L2                               | Homo sapiens ball-klein-related leucine protease 2 (KLK2L2), transcript variant 2, mRNA [NM_001002231]   |
| A_33_P2495734  | 2.147 | 1.103 | 2.147 | ATG16L1                              | Homo sapiens autophagy related (At-1-like 1) (S. cerevisiae) (ATG16L1), transcript variant 1, mRNA [NM_0308003]  |

|                |       |       |       |    |   |
|----------------|-------|-------|-------|----|---|
| A.24.P290054   | 2.147 | 1.102 | 2.147 | up | Homo sapiens zinc finger AN1-type domain 5 (ZFAN5), transcript variant c, mRNA [NM_006007]                                  |
| A.33.P338715B  | 2.146 | 1.102 | 2.146 | up | Homo sapiens protein phosphatase 1, regulatory subunit 1B (PPP1R15B), mRNA [NM_032833]                                      |
| A.23.P391017   | 2.146 | 1.101 | 2.146 | up | Homo sapiens arrestin domain containing 1 (ARRDC1), mRNA [NM_152285]  |
| A.33.P3311439  | 2.145 | 1.101 | 2.145 | up | Homo sapiens GTP cyclohydrolase 1 (GCH1), transcript variant 4, mRNA [NM_001094071]   |
| A.21.P006728   | 2.145 | 1.101 | 2.145 | up | long intergenic non-protein coding RNA 704 [Source:HGNC Symbol;Acc:HGNC:44678] [ENST0000046712]                             |
| A.24.P221198   | 2.145 | 1.101 | 2.145 | up | Homo sapiens metallo-beta-lactamase domain containing 1 (MBLAC1), mRNA [NM_203397]  |
| A.33.P3282220  | 2.145 | 1.101 | 2.145 | up | Homo sapiens ZDMO family member 2 (ZDMO2), mRNA [NM_001271706]  |
| A.23.P160120   | 2.144 | 1.101 | 2.144 | up | Homo sapiens basic leucine zipper transcription factor A1F-like 3 (BALT3), mRNA [NM_018864]                                 |
| A.23.P110882   | 2.144 | 1.100 | 2.144 | up | Homo sapiens TSPY-like 4 (TSPYL4), mRNA [NM_021649]   |
| A.23.P106450   | 2.144 | 1.100 | 2.144 | up | Homo sapiens TSPY-like 4 (TSPYL4), mRNA [NM_021649]   |
| A.24.P46256    | 2.142 | 1.099 | 2.142 | up | Homo sapiens conserved nuclear protein-like 3 (CNTNAP3), mRNA [NM_033835]   |
| A.23.P0038975  | 2.141 | 1.098 | 2.141 | up | Homo sapiens N-acetylglucosaminidase, alpha- (NAGPA), mRNA [NM_002622]  |
| A.33.P338348   | 2.141 | 1.098 | 2.141 | up | Homo sapiens cDNA FL45765, clone LMAPR202428, [AKI127865]   |
| A.24.P186726   | 2.141 | 1.098 | 2.141 | up | Homo sapiens neofarctin 2 (neof2) (NEF2), transcript variant 13, mRNA [NM_181831]   |
| A.33.P342828   | 2.141 | 1.098 | 2.141 | up | Homo sapiens heparin binding EGF-like transcription factor 4 (HES4), transcript variant 2, mRNA [NM_021170]                 |
| A.33.P3244224  | 2.140 | 1.098 | 2.140 | up | Homo sapiens cDNA FL46195, clone TEST14006539, [AKI28074]   |
| A.19.P3003764  | 2.139 | 1.097 | 2.139 | up | Homo sapiens cDNA FL42830, clone BRCA20017905, [AKI124820]  |
| A.24.P256654   | 2.139 | 1.097 | 2.139 | up | Homo sapiens ZNF674 antisense RNA 1 (head to head) (ZNF674-AS1), long non-coding RNA [NR_015378]                            |
| A.33.P3321900  | 2.137 | 1.095 | 2.137 | up | T cell receptor alpha variable 22 [Source:HGNC Symbol;Acc:HGNC:12119] [ENST00000390450]                                     |
| A.33.P321517   | 2.136 | 1.095 | 2.136 | up | Homo sapiens regulator of chromosome condensation 2 (RCC2), transcript variant 1, mRNA [NM_019175]                          |
| A.33.P3372892  | 2.136 | 1.095 | 2.136 | up | Homo sapiens REX1, RNA acetylase 1 homolog (S. cerevisiae) (REXO1), mRNA [NM_029895]  |
| A.33.P343225   | 2.136 | 1.095 | 2.136 | up | Homo sapiens RIMS binding protein 2 (RIMBP2), mRNA [NM_019347]  |
| A.23.P256521   | 2.135 | 1.095 | 2.135 | up | Homo sapiens mitochondrial ribosomal protein S17 (MRPS17), mRNA [NM_019369]   |
| A.33.P3421867  | 2.135 | 1.094 | 2.135 | up | RAM domain containing glycosylphosphatidylinositol anchor 1 [Source:HGNC Symbol;Acc:HGNC:16201] [ENST00000390450]           |
| A.33.P3284835  | 2.134 | 1.094 | 2.134 | up | Myo19, myosin class I, isoform 19 [Source:HGNC Symbol;Acc:HGNC:16366] [ENST0000039119]                                      |
| A.23.P168116   | 2.134 | 1.094 | 2.134 | up | Homo sapiens myosin class I, isoform 19 (MYO19), mRNA [NM_019347]   |
| A.23.P0004645  | 2.134 | 1.093 | 2.134 | up | Homo sapiens myosin class I, isoform 19 (MYO19), mRNA [NM_019347]   |
| A.23.P204550   | 2.133 | 1.093 | 2.133 | up | LINGAedia lectina (inc-GTBP2-1), lincRNA [inc-GTBP2-1.1]  |
| A.33.P3408327  | 2.133 | 1.093 | 2.133 | up | Homo sapiens SCY1-like 2 (S. cerevisiae) (SCYL2), mRNA [NM_017888]  |
| A.23.P23006    | 2.132 | 1.092 | 2.132 | up | PREDICTED: Homo sapiens uncharacterized LOC101927479, [LOG101927479], mRNA [XR_241209] [NM_009525]                          |
| A.22.P00023709 | 2.132 | 1.092 | 2.132 | up | Homo sapiens epithelial cell transforming 2 (ECT2), transcript variant 3, mRNA [NM_018098]                                  |
| A.23.P44684    | 2.131 | 1.092 | 2.131 | up | Homo sapiens protein phosphatase 1, regulatory (inhibitor) subunit 2 (PPP1R2), transcript variant 2, mRNA [NM_008241]       |
| A.33.P3308864  | 2.131 | 1.092 | 2.131 | up | Homo sapiens epithelial cell transforming 2 (ECT2), transcript variant 3, mRNA [NM_018098]                                  |
| A.22.P00006571 | 2.130 | 1.091 | 2.130 | up | Inc-FNNI-3 [BX068994 Soares, testis, NIH] Homo sapiens cDNA clone IMAGE596023475, IMAGE:1378665, mRNA sequence [BX068994]   |
| A.21.P0014709  | 2.129 | 1.090 | 2.129 | up | Homo sapiens PAX8 antisense RNA 1 (PAX8-AS1), transcript variant 2, long non-coding RNA [NR_047570]                         |
| A.23.P42212    | 2.129 | 1.090 | 2.129 | up | Homo sapiens PAX8 antisense RNA 1 (PAX8-AS1), transcript variant 2, long non-coding RNA [NR_047570]                         |
| A.23.P25150    | 2.129 | 1.090 | 2.129 | up | Homo sapiens solute carrier family 35, member F3 (SLC35F3), transcript variant 1, mRNA [NM_175088]                          |
| A.23.P221279   | 2.128 | 1.089 | 2.128 | up | Homo sapiens nucleoside diphosphate (GDP) 3-epimerase 1 (NME1), mRNA [NM_017172]  |
| A.33.P3289164  | 2.128 | 1.089 | 2.128 | up | Homo sapiens cytoskeleton-associated protein 9 open reading frame 173 (C9orf173), transcript variant 1, mRNA [NM_001245854] |
| A.21.P0009227  | 2.128 | 1.089 | 2.128 | up | LINGAedia lectina (inc-MRP1P-1), lincRNA [inc-MRP1P-1.1]  |
| A.22.P00014158 | 2.128 | 1.089 | 2.128 | up | LINGAedia lectina (inc-SCOC-1), lincRNA [inc-SCOC-1.1]  |
| A.23.P5831     | 2.128 | 1.089 | 2.128 | up | Homo sapiens thapsigargin-like 1 (HPCAL1), transcript variant 2, mRNA [NM_134421]   |
| A.23.P101392   | 2.128 | 1.089 | 2.128 | up | Homo sapiens thapsigargin-like 1 (HPCAL1), transcript variant 2, mRNA [NM_134421]   |
| A.23.P248083   | 2.127 | 1.088 | 2.127 | up | Homo sapiens transmembrane protein 38A (TMEM38A), mRNA [NM_024074]  |
| A.33.P3404792  | 2.126 | 1.088 | 2.126 | up | Homo sapiens FCH domain only 2 (FCHO2), transcript variant 1, mRNA [NM_138782]  |
| A.23.P257143   | 2.126 | 1.088 | 2.126 | up | Homo sapiens dehydrodicholyl diphosphate synthase (DHDDS), transcript variant 3, mRNA [NM_001245854]                        |
| A.22.P00016000 | 2.126 | 1.088 | 2.126 | up | Homo sapiens Src homology 2 domain containing adaptor protein B (SHB), mRNA [NM_005028]                                     |
| A.33.P3201891  | 2.124 | 1.087 | 2.124 | up | BX116190 Soares fetal liver spleen INFLS Homo sapiens cDNA clone IMAGE596005114, mRNA sequence [BX116190]                   |
| A.33.P321005   | 2.123 | 1.086 | 2.123 | up | PREDICTED: Homo sapiens uncharacterized LOC100128002, [LOC100128002], miscRNA [XR_158870]                                   |
| A.24.P179384   | 2.123 | 1.086 | 2.123 | up | Homo sapiens WD repeat domain 66 (WD66), transcript variant 1, mRNA [NM_144663]   |
| A.33.P251820   | 2.123 | 1.086 | 2.123 | up | Homo sapiens WD repeat domain 66 (WD66), transcript variant 1, mRNA [NM_144663]   |
| A.23.P251820   | 2.123 | 1.086 | 2.123 | up | Homo sapiens WD repeat domain 66 (WD66), transcript variant 1, mRNA [NM_144663]   |
| A.23.P112288   | 2.122 | 1.085 | 2.122 | up | Synthetic construct Homo sapiens gateway clone IMAGE16001344 3' read PARS5 mRNA, [GLJ025938]                                |
| A.22.P00017016 | 2.121 | 1.085 | 2.121 | up | Inc-TTC4-1 [GLJ025938]  |
| A.33.P3381454  | 2.121 | 1.085 | 2.121 | up | Homo sapiens chrXosome 1, open reading frame 55 (C1orf55), mRNA [NM_017860]   |
| A.22.P00019687 | 2.121 | 1.085 | 2.121 | up | 603042175F1 NIH.MGC.116 Homo sapiens cDNA clone IMAGE5182483 5' mRNA sequence [B517743]                                     |
| A.24.P7790     | 2.121 | 1.085 | 2.121 | up | Homo sapiens WAP four-disulfide core domain (WFDC4), transcript variant 1, mRNA [NM_172006]                                 |
| A.23.P54116    | 2.120 | 1.084 | 2.120 | up | Homo sapiens dishevelled associated activator of morphogenesis 1 (DAAM1), transcript variant 1, mRNA [NM_016892]            |
| A.24.P28420    | 2.120 | 1.084 | 2.120 | up | Homo sapiens protein arginine methyltransferase 5 (PRMT5), transcript variant 2, mRNA [NM_0039619]                          |
| A.22.P00002559 | 2.119 | 1.084 | 2.119 | up | PREDICTED: Homo sapiens uncharacterized LOC101928543, [LOC101928543], transcript variant X2, miscRNA [XR_242757]            |
| A.33.P323535   | 2.119 | 1.083 | 2.119 | up | Homo sapiens myotubularin related protein 3 (MTMR3), transcript variant 3, mRNA [NM_021080]                                 |
| A.21.P56776    | 2.117 | 1.082 | 2.117 | up | Homo sapiens tubulin alpha 3d (TUBA3D), mRNA [NM_060306]  |
| A.22.P0022687  | 2.117 | 1.082 | 2.117 | up | Homo sapiens ATSNV02, antisense RNA 1 (ATSNV02-AS1), long non-coding RNA [NR_027040]  |
| A.24.P84043    | 2.116 | 1.081 | 2.116 | up | Homo sapiens LIM end calcium homology domains 1 (LIMCH1), transcript variant 1, mRNA [NM_0146888]                           |
| A.24.P70993    | 2.115 | 1.081 | 2.115 | up | Homo sapiens CD39 molecule (CD39), transcript variant 1, mRNA [NM_002414]   |
| A.33.P3468190  | 2.115 | 1.081 | 2.115 | up | Homo sapiens peptidylglycine alpha-amidating monoxygenase (PAM), transcript variant 5, mRNA [NM_001172026]                  |

|                |       |       |    |              |  |
|----------------|-------|-------|----|--------------|--|
| A.33.P327356   | 2.115 | 1.081 | up | LOC100607487 | Homo sapiens uncharacterized LOC100607487, long non-coding RNA [NR 129832]   |
| A.21.P0012739  | 2.115 | 1.081 | up | RAB39-AS1    | Homo sapiens RAB39 antisense RNA 1 (head to head) (RAB39-AS1), long non-coding RNA [RG 038903]   |
| A.21.P0007247  | 2.115 | 1.080 | up | SLC4A3       | Homo sapiens SLC4A3  |
| A.23.P39647    | 2.114 | 1.080 | up | SLC2A12      | Homo sapiens SLC2A12   |
| A.21.P001708   | 2.114 | 1.080 | up | SPFCC1L      | BROAD Institute lincRNA (LOC1206804), lincRNA [TCNS 12 0012669]  |
| A.32.P203915   | 2.112 | 1.079 | up | ABCB8        | Homo sapiens ATP-binding cassette, sub-family B (MDR/TAP), member 8 (ABCB8), transcript variant 1, mRNA [NM 005070]                        |
| A.23.P82249    | 2.112 | 1.078 | up | DEFNDIA      | Homo sapiens DEFNDIA [Source:HGNC Symbol;Acc:HGNC:4987]  |
| A.21.P0008288  | 2.112 | 1.078 | up | DEFNDIA-1    | Homo sapiens DEFNDIA-1 [Source:Ensembl;transcript_id:ENST0000028288]   |
| A.23.P49597    | 2.111 | 1.078 | up | DEFNDIA      | Homo sapiens DEFNDIA [Source:Ensembl;transcript_id:ENST0000028288]   |
| A.21.P0011988  | 2.110 | 1.077 | up | SLC22A2      | BROAD Institute lincRNA (LOC1206827), lincRNA [TCNS 12 0014908]  |
| A.23.P47282    | 2.110 | 1.077 | up | SLT14        | Homo sapiens suppression of tumorigenicity 14 (colon carcinoma) (SLT14), mRNA [NM 021978]  |
| A.23.P146813   | 2.109 | 1.077 | up | FMO1         | Homo sapiens flavin containing monooxygenase 1 (FMO1), transcript variant 2, mRNA [NM 002021]  |
| A.23.P50426    | 2.109 | 1.077 | up | KANK2        | Homo sapiens KANK2, transcript variant 1, mRNA [NM 015493]   |
| A.33.P3261865  | 2.109 | 1.077 | up | HLA-J        | major histocompatibility complex, class I, J (pseudogene) [Source:HGNC Symbol;Acc:HGNC:4987]   |
| A.23.P47004    | 2.109 | 1.077 | up | DHX32        | Homo sapiens DHX32 (Ahp-Cb1-Ahp-His) box polyphosphate 32 (DHX32), mRNA [NM 018180]  |
| A.33.P2915422  | 2.109 | 1.077 | up | LYL1         | Homo sapiens lymphoblastic leukemia associated hematopoiesis regulator 1 (LYL1), mRNA [NM 005958]  |
| A.23.P21318    | 2.109 | 1.077 | up | CAS2         | Homo sapiens calpastatin (CAS2), transcript variant 8, mRNA [NM 001042440]   |
| A.23.P0014957  | 2.109 | 1.076 | up | linc-SLTM-3  | LINC006523340  |
| A.23.P23195    | 2.108 | 1.076 | up | AJAP1        | Homo sapiens adherens junctions associated protein 1 (AJAP1), transcript variant 1, mRNA [NM 018391]                                       |
| A.24.P181877   | 2.108 | 1.076 | up | PQLC1        | Homo sapiens PQLC1, transcript variant 1, mRNA [NM 028279]   |
| A.22.P00021198 | 2.107 | 1.075 | up | linc-GSDMD-2 | ENST0000028279   |
| A.22.P00000483 | 2.107 | 1.075 | up | POGIP1       | Homo sapiens POGIP1, transcript variant 2, non-coding RNA [NR 103742]  |
| A.24.P332682   | 2.107 | 1.075 | up | ZNF493       | Homo sapiens zinc finger protein 493 (ZNF493), transcript variant 3, mRNA [NM 001076878]   |
| A.24.P342086   | 2.107 | 1.075 | up | WWP2         | Homo sapiens WW domain containing E3 ubiquitin protein ligase 2 (WWP2), transcript variant 6, mRNA [NM 001270455]                          |
| A.33.P3368655  | 2.106 | 1.075 | up | SLC29A2      | solute carrier family 20 (phosphate transporter), member 2 [Source:HGNC Symbol;Acc:HGNC:10647]   |
| A.33.P3242328  | 2.106 | 1.075 | up | EPF3 15      | Homo sapiens epidermal growth factor receptor pathway substrate 15 (EPF3), transcript variant 1, mRNA [NM 00101891]                        |
| A.23.P136986   | 2.106 | 1.075 | up | ARPOOL       | Homo sapiens arpoliprotein O-like (ARPOOL), mRNA [NM 198450]   |
| A.32.P175507   | 2.105 | 1.074 | up | DEFND3       | Homo sapiens DEFND3 domain containing 3 (DEFND3), mRNA [NM 0014857]  |
| A.23.P32233    | 2.105 | 1.074 | up | KLFL4        | Homo sapiens Kuzner-like factor 4 (klfl4) (KLFL4), mRNA [NM 008235]  |
| A.23.P141484   | 2.105 | 1.074 | up | FAM222B      | Homo sapiens family with sequence similarity 222, member B (FAM222B), transcript variant 2, mRNA [NM 018182]                               |
| A.23.P166526   | 2.104 | 1.073 | up | RIB22        | Homo sapiens RIB22, domain with eukaryotic ribosomal protein 22 (RIB22), transcript variant 1, mRNA [NM 018565]                            |
| A.33.P281800   | 2.103 | 1.073 | up | LRFP2        | Homo sapiens leucine rich repeat (in FLN) interacting protein 2 (LRFP2), transcript variant 1, mRNA [NM 006308]                            |
| A.33.P243437   | 2.103 | 1.072 | up | PC           | Homo sapiens pyruvate carboxylase (PC), transcript variant 3, mRNA [NM 001040716]  |
| A.21.P0000812  | 2.102 | 1.072 | up | TOBI-AS1     | Homo sapiens TOBI-AS1 (TOBI-AS1), long non-coding RNA [NR 038458]  |
| A.21.P00001620 | 2.102 | 1.072 | up | LOC101928809 | Homo sapiens uncharacterized LOC101928809 (LOC101928809), long non-coding RNA [NR 125060]  |
| A.32.P205944   | 2.102 | 1.072 | up | RGPD5        | Homo sapiens RANBP2-like and GRIP domain containing 5 (RGPD5), transcript variant 1, mRNA [NM 005054]                                      |
| A.33.P242059   | 2.101 | 1.071 | up | KIF3A        | Homo sapiens kinesin family member 3A (KIF3A), transcript variant 1, mRNA [NM 022113]  |
| A.22.P00015155 | 2.101 | 1.071 | up | linc-SOD3-3  | LINC0061323  |
| A.21.P0000548  | 2.100 | 1.071 | up | PODDBP       | Homo sapiens programmed cell death 6 interacting protein (PODDBP), transcript variant 4, mRNA [NM 001258192]                               |
| A.22.P00014188 | 2.099 | 1.070 | up | COL9A2       | Homo sapiens collagen, type IX, alpha 2 (COL9A2), mRNA [NM 001852]   |
| A.23.P45786    | 2.098 | 1.069 | up | ANOD7        | anodamin 7 [Source:HGNC Symbol;Acc:HGNC:1877] [ENST00000402430]  |
| A.33.P3319281  | 2.098 | 1.069 | up | GRAMD3       | Homo sapiens GRAM domain containing 3 (GRAMD3), transcript variant 2, mRNA [NM 001138198]  |
| A.33.P331222   | 2.097 | 1.069 | up | GRAMD3       | Homo sapiens GRAM domain containing 3 (GRAMD3), transcript variant 2, mRNA [NM 001138198]  |
| A.22.P0000735  | 2.097 | 1.068 | up | BTBD39       | Homo sapiens BTBD39 domain containing 9 (BTBD39), transcript variant 1, mRNA [NM 0282893]  |
| A.22.P0000735  | 2.097 | 1.068 | up | BTBD39       | Homo sapiens BTBD39 domain containing 9 (BTBD39), transcript variant 1, mRNA [NM 0282893]  |
| A.23.P2610829  | 2.096 | 1.068 | up | GCDA1        | Homo sapiens GCDA1, transcript variant 2, mRNA [NM 018326]   |
| A.23.P2610829  | 2.096 | 1.068 | up | GCDA1        | Homo sapiens GCDA1, transcript variant 2, mRNA [NM 018326]   |
| A.33.P3342621  | 2.096 | 1.067 | up | FAM118A      | Homo sapiens family with sequence similarity 118, member A (FAM118A), transcript variant 2, mRNA [NM 017911]                               |
| A.24.P191656   | 2.094 | 1.067 | up | ACAD9        | Homo sapiens acyl-CoA dehydrogenase family, member 9 (ACAD9), transcript variant 1, mRNA [NM 014049]                                       |
| A.23.P11481    | 2.094 | 1.066 | up | UBE2V1       | Homo sapiens ubiquitin-conjugating enzyme E2 variant 1 (UBE2V1), transcript variant 4, mRNA [NM 001032288]                                 |
| A.22.P00024715 | 2.094 | 1.066 | up | GRAMD3       | Homo sapiens GRAM domain containing 3 (GRAMD3), transcript variant 2, mRNA [NM 001138198]  |
| A.33.P325046   | 2.093 | 1.066 | up | PLEKHG3      | Homo sapiens pleckstrin homology domain containing, family H (with MYTH domain) member 3 (PLEKHG3), transcript variant 1, mRNA [NM 024927] |
| A.24.P140405   | 2.093 | 1.065 | up | ADAMTS3      | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 3 (ADAMTS3), mRNA [NM 004583]   |
| A.24.P86337    | 2.092 | 1.065 | up | LOC101928809 | transcript variant 1 [Source:HGNC Symbol;Acc:HGNC:28196] [ENST00000319406]   |
| A.23.P397360   | 2.092 | 1.065 | up | SLC7A8OS     | Homo sapiens solute carrier family 7, member 8, opposite strand (SLC7A8OS), mRNA [NM 032178]   |
| A.22.P0013834  | 2.091 | 1.064 | up | linc-WNT1-1  | Homo sapiens linc-WNT1-1, lincRNA [NR 17417]   |
| A.32.P85642    | 2.091 | 1.064 | up | PKC2         | Homo sapiens cDNA FL12294.1c, clone PRG127001.06, AK058886   |
| A.23.P128817   | 2.091 | 1.064 | up | PKC2         | Homo sapiens phosphoenolpyruvate carboxykinase 2 (mitochondrial) (PKC2), transcript variant 1, mRNA [NM 004583]                            |
| A.24.P186843   | 2.090 | 1.064 | up | ELN          | Homo sapiens elastin (ELN), transcript variant 1, mRNA [NM 000951]   |
| A.22.P00004325 | 2.090 | 1.063 | up | SLC28A4-AS1  | Homo sapiens SLC28A4 antisense RNA 1 (SLC28A4-AS1), long non-coding RNA [NR 028137]  |
| A.23.P101186   | 2.089 | 1.063 | up | CHMP6        | Homo sapiens charged multivesicular body protein 6 (CHMP6), mRNA [NM 024551]   |

|                |       |       |    |                |   |
|----------------|-------|-------|----|----------------|---|
| A.23.P135469   | 2.089 | 1.063 | up | GLIC4          | Homo sapiens chloride intracellular channel 4 (GLIC4), mRNA [NM 013943]   |
| A.23.P20484    | 2.089 | 1.063 | up | NDRG1          | Homo sapiens N-myc downstream regulated 1 (NDRG1), transcript variant 2, mRNA [NM 006036]   |
| A.21.P001057   | 2.088 | 1.061 | up | INC1           | LINC1, lincRNA [Inc-TNFRSF14-1], lincRNA [Inc-TNFRSF14-1]   |
| A.23.P12045    | 2.086 | 1.060 | up | WFD33          | Homo sapiens WAP four-disulfide core domain 3 (WFD33), mRNA [NM 080614]   |
| A.23.P20578    | 2.086 | 1.060 | up | RGS16          | Homo sapiens regulator of G-protein signaling 16 (RGS16), mRNA [NM 002959]  |
| A.33.P303649   | 2.085 | 1.059 | up | MB             | Homo sapiens myoglobin (MB), transcript variant 2, mRNA [NM 203377]   |
| A.24.P349547   | 2.083 | 1.058 | up |                | Homo sapiens long intergenic non-protein coding RNA 984 (LINC00984), long non-coding RNA [NR 033978]  |
| A.33.P3233469  | 2.083 | 1.058 | up | DNAJC5         | Homo sapiens DnaJ (Hsc70) homolog, subfamily C, member 5 (DNAJC5), mRNA [NM 023219]   |
| A.33.P3419733  | 2.082 | 1.058 | up | SLC6A12        | Homo sapiens SLC6 transporter family 6 (neurotransmitter transporter), member 12 (SLC6A12), transcript variant 1, mRNA [NM 006883]              |
| A.23.P78386    | 2.082 | 1.058 | up | GLUK1          | Homo sapiens glutamate receptor 1 (GLUK1), transcript variant 2, mRNA [NM 006883]   |
| A.23.P201007   | 2.082 | 1.058 | up | COA2           | Homo sapiens COA domain containing 2 (COA2), transcript variant 1, mRNA [NM 00114446]   |
| A.23.P121102   | 2.081 | 1.057 | up | ACAD9          | Homo sapiens acyl-CoA dehydrogenase family, member 9 (ACAD9), transcript variant 1, mRNA [NM 014049]  |
| A.23.P349687   | 2.081 | 1.057 | up | HIFX           | Homo sapiens HIF1, histone family, member X (HIFX), mRNA [NM 006026]  |
| A.24.P320472   | 2.080 | 1.057 | up | HLA-DPB4       | Homo sapiens major histocompatibility complex, class II, DR beta 4 (HLA-DPB4), mRNA [NM 021983]   |
| A.23.P19517    | 2.080 | 1.057 | up | ITPR3          | Homo sapiens inositol 1,4,5-trisphosphate receptor, type 3 (ITPR3), mRNA [NM 002224]  |
| A.33.P3283485  | 2.080 | 1.057 | up | PREDC1ED       | Homo sapiens uncharacterized LOC404037, LOC404037, miscRNA [XR 108921]  |
| A.24.P382319   | 2.080 | 1.056 | up | GEACAM1        | Homo sapiens carcinoembryonic antigen-related cell adhesion molecule 1 (biliary glycoprotein) (GEACAM1), transcript variant 1, mRNA [NM 001712] |
| A.24.P15043    | 2.080 | 1.056 | up | KLHL18         | Homo sapiens kelch-like family member 18 (KLHL18), mRNA [NM 029210]   |
| A.22.P0001205  | 2.080 | 1.056 | up | LINC01386      | Homo sapiens long intergenic non-protein coding RNA 1386 (LINC01386), long non-coding RNA [NR 128410]   |
| A.33.P3293456  | 2.080 | 1.056 | up | GATA2          | Homo sapiens GATA binding protein 4 (GATA2), mRNA [NM 026552]   |
| A.21.P001183   | 2.079 | 1.056 | up | XLOC12 003992  | BROAD Institute lincRNA XLOC12 003992, lincRNA [CONS 12 00017201]   |
| A.33.P324288   | 2.078 | 1.055 | up | CD45N1         | Homo sapiens leukocyte common antigen containing 4 (LINC01386), mRNA [NM 01094430]  |
| A.22.P0007541  | 2.078 | 1.055 | up | LINC0193288    | PREDC1ED, Homo sapiens uncharacterized LOC10193288, LOC10193288, miscRNA [X2 244239]  |
| A.22.P0002961  | 2.077 | 1.054 | up | linc-ONPY3-1   | 80208318F1, NCL-GOAP, Bred4 Homo sapiens cDNA clone IMAGE418840 5', mRNA sequence [BF 341178]   |
| A.33.P3368228  | 2.076 | 1.054 | up |                | XM 386788 predicted protein [Magnesiothera grisea 70-15] (wp=0; wps=1; eq=0), partial (11%) [TH02774951]  |
| A.23.P361149   | 2.075 | 1.053 | up | ABHD17B        | Homo sapiens abhydrolase domain containing 17B (ABHD17B), transcript variant 1, mRNA [NM 016014]  |
| A.23.P300097   | 2.075 | 1.053 | up | ITIC39B        | Homo sapiens tetraacetate repeat domain 39B (ITIC39B), transcript variant 1, mRNA [NM 152174]   |
| A.33.P3240115  | 2.074 | 1.053 | up | CCO95C         | Homo sapiens coiled-coil domain containing 85C (CCO95C), mRNA [NM 001144895]  |
| A.33.P3240115  | 2.074 | 1.052 | up | 8-Seg          | Homo sapiens coiled-coil domain containing 85C (CCO95C), mRNA [NM 001144895]  |
| A.33.P3292218  | 2.072 | 1.051 | up | CFAP88         | Homo sapiens associated protein 98 (Source:HGNC Symbol:Acc:HNC:2676) [ENST000000089703]   |
| A.33.P3297285  | 2.072 | 1.051 | up |                | Homo sapiens cDNA FL42788 fs, clone BRWFB0039322, AK124759  |
| A.23.P0006277  | 2.071 | 1.051 | up | linc-CALML6-1  | Stratlin 18 pseudogene 34 [Source:HGNC Symbol:Acc:HNC:33493] [ENST00000489216]  |
| A.33.P3240088  | 2.071 | 1.050 | up | EMK1           | Homo sapiens emby sprouts homeobox 1, mRNA (cDNA clone IMAGE5198260), complete cds. [BC037443]  |
| A.22.P0001960  | 2.070 | 1.050 | up |                | OSVZ13 (HUMAN OSVZ13) Ofsetactinid, 1, complete [F02862568]   |
| A.33.P3306762  | 2.070 | 1.049 | up |                | Homo sapiens cDNA FL100149 fs, clone HEMBI 0001876, AK074830  |
| A.33.P323170   | 2.069 | 1.049 | up | linc-ADAM30-1  | Homo sapiens cDNA FL111946 fs, clone HEMBI 0001709, AK022008  |
| A.21.P0014604  | 2.068 | 1.048 | up | GGT6           | Homo sapiens gamma-glutamyltransferase 6 (GGT6), transcript variant 2, mRNA [NM 153338]   |
| A.23.P36787    | 2.067 | 1.048 | up | PRRG1          | Homo sapiens proline rich Gln (G-carboxylglutamic acid) 1 (PRRG1), transcript variant 5, mRNA [NM 001173486]                                    |
| A.33.P3260637  | 2.067 | 1.048 | up |                | SH3 domain and tetrapeptide repeats 1 [Source:HGNC Symbol:Acc:HNC:28009]  |
| A.33.P3389443  | 2.067 | 1.048 | up | SH3TC1         | Homo sapiens SH3 domain tetrapeptide repeats 1 [Source:HGNC Symbol:Acc:HNC:28009]   |
| A.33.P3244274  | 2.066 | 1.047 | up | RNF208         | Homo sapiens ring finger protein 208, mRNA (cDNA clone MGC21194 IMAGE4151712), complete cds. [BC016959]   |
| A.22.P0002395  | 2.066 | 1.047 | up | RNF24          | Homo sapiens ring finger protein 24 [Source:HGNC Symbol:Acc:HNC:13779] [ENST00000336995]  |
| A.24.P152988   | 2.066 | 1.047 | up | AKR1C1         | Homo sapiens aldo-keto reductase family 1, member C1 (AKR1C1), mRNA [NM 0012935]  |
| A.24.P4892     | 2.066 | 1.047 | up | NLRP5          | Homo sapiens NLR family, pyrin domain containing 5 (NLRP5), mRNA [NM 153447]  |
| A.22.P0002785  | 2.066 | 1.047 | up | linc-GRP175-1  | LINCpedia lincRNA (linc-GRP175-1), lincRNA [linc-GRP175-1]  |
| A.22.P0002785  | 2.066 | 1.046 | up | linc-GRP175-1  | LINCpedia lincRNA (linc-GRP175-1), lincRNA [linc-GRP175-1], long non-coding RNA [NR 121838]   |
| A.21.P0002915  | 2.064 | 1.045 | up | linc-TMEM88A-2 | LINCpedia lincRNA (linc-TMEM88A-2), lincRNA [linc-TMEM88A-2], long non-coding RNA [NR 137366]   |
| A.22.P00018479 | 2.064 | 1.045 | up | PRMZ           | Homo sapiens PRMZ, RNA subunit 2 (580Da), (PRMZ), transcript variant 1, mRNA [NM 000947]  |
| A.24.P282237   | 2.063 | 1.045 | up | TUNAR          | TCL1 upstream neural differentiation-associated RNA [Source:HGNC Symbol:Acc:HNC:44088]  |
| A.33.P3418171  | 2.063 | 1.045 | up |                | [ENST00000554321]   |
| A.24.P18917    | 2.063 | 1.044 | up | LMF1           | Homo sapiens leucine maturation factor 1 (LMF1), transcript variant 1, mRNA [NM 022773]   |
| A.24.P272088   | 2.062 | 1.044 | up | SPTB           | Homo sapiens spectrin, beta, erythrocyte (SPTB), transcript variant 1, mRNA [NM 001024858]  |
| A.21.P0001952  | 2.062 | 1.044 | up | LINC09400      | Homo sapiens long intergenic non-protein coding RNA 400 (LINC09400), long non-coding RNA [NR 047019]  |
| A.23.P364297   | 2.062 | 1.044 | up | CHTF18         | Homo sapiens CTF18, chromosome transmission fidelity factor 18 homolog (S. cerevisiae) (CHTF18), mRNA [NM 022092]                               |
| A.23.P141779   | 2.062 | 1.044 | up | DXGT1          | Homo sapiens CXXC finger protein 1 (CXXC1), transcript variant 2, mRNA [NM 014693]  |
| A.24.P373152   | 2.061 | 1.043 | up | DXGT2          | Homo sapiens coiled-coil domain containing 2 (mausch) (DXGT2), transcript variant 1, mRNA [NM 021914]   |
| A.33.P3404316  | 2.061 | 1.043 | up | MIR100HG       | Homo sapiens mir-100-let-7a-2 cluster host gene (non-protein coding) (MIR100HG), long non-coding RNA [NR 024430]                                |
| A.21.P0001034  | 2.061 | 1.043 | up | linc-EBF3-4    | LINCpedia lincRNA (linc-EBF3-4), lincRNA [linc-EBF3-4]  |
| A.22.P00007112 | 2.060 | 1.043 | up | linc-GLUD1-3   | Homo sapiens ORE1S from keratinocytes Homo sapiens cDNA, mRNA sequence [X6464730]   |
| A.23.P148816   | 2.060 | 1.043 | up | OSBP9L         | Homo sapiens oxysterol binding protein-like 9 (OSBP9L), transcript variant 1, mRNA [NM 148909]  |
| A.32.P121938   | 2.060 | 1.042 | up | ACTB           | Homo sapiens actin, beta (ACTB), mRNA [NM 001011]   |
| A.33.P3400374  | 2.060 | 1.042 | up | HELZ2          | Homo sapiens helicase with zinc finger 2, transcriptional coactivator (HELZ2), transcript variant 1, mRNA [NM 001037335]                        |
| A.23.P139143   | 2.059 | 1.042 | up | STX3           | Homo sapiens syntaxin 3 (STX3), transcript variant 1, mRNA [NM 004177]  |
| A.32.P185628   | 2.059 | 1.042 | up |                |   |

|                |       |       |       |    |               |  |
|----------------|-------|-------|-------|----|---------------|--|
| A.22.P0001073  | 2.058 | 1.042 | 2.058 | up | CCZ1          | Homo sapiens CCZ1 vesicular protein trafficking and biogenesis associated homolog (S. cerevisiae) (CCZ1), mRNA [NM_015622] |
| A.33.P321357   | 2.058 | 1.041 | 2.058 | up | PLS3          | Homo sapiens platin 3 (PLS3), transcript variant 1, mRNA [NM_005032]   |
| A.23.P250607   | 2.058 | 1.041 | 2.058 | up | CXCL12        | Homo sapiens chemokine (C-X-C motif) ligand 12 (CXCL12), transcript variant 3, mRNA [NM_001035886]                         |
| A.33.P3372940  | 2.057 | 1.041 | 2.057 | up | NPEPPS        | Homo sapiens aminopeptidase euroymin sensitive (NPEPPS), mRNA [NM_006310]  |
| A.23.P48456    | 2.057 | 1.041 | 2.057 | up |               | HES3 16 kb (1) X086 Human embryonic stem cells Homo sapiens cDNA clone IMAGE:7476792.5', mRNA sequence [X782743]           |
| A.21.P0014020  | 2.056 | 1.040 | 2.056 | up | SFTAS3        | Homo sapiens sarcosine associated 3 (SFTAS3), mRNA [NM_00101341]   |
| A.22.P00014586 | 2.056 | 1.040 | 2.056 | up |               | 337230.HUMAN (337230) 3' UTR region, contig, receptor tyrosine kinase, [THC2689330]  |
| A.23.P491748   | 2.056 | 1.040 | 2.056 | up | LNA33         | Homo sapiens alpha 3 (LNA33), mRNA [NM_00101341]   |
| A.23.P491749   | 2.055 | 1.039 | 2.055 | up | OR6G2         | Homo sapiens olfactory receptor family 6, subfamily C, member 2 (OR6G2), mRNA [NM_001291438]                               |
| A.33.P3226889  | 2.055 | 1.039 | 2.055 | up |               | double helix box A, pseudogene, 8 [Source:Ensembl;Accession:ENST0000046823]  |
| A.21.P0012327  | 2.054 | 1.038 | 2.054 | up | JADE1         | Homo sapiens beta family PHD finger 1 (JADE1), transcript variant 4, mRNA [NM_001231439]                                   |
| A.33.P3252325  | 2.054 | 1.038 | 2.054 | up | PFOX          | Homo sapiens pyruvate decarboxylase (PFOX), mRNA [NM_016518]   |
| A.23.P184248   | 2.054 | 1.038 | 2.054 | up | STYK1         | Homo sapiens serine/threonine/tyrosine kinase 1 (STYK1), mRNA [NM_018423]  |
| A.23.P13822    | 2.053 | 1.037 | 2.053 | up | LOC117202-1   | LINC01612, lincRNA [nc-HTR2C-1], lincRNA [nc-HTR2C-1], mRNA [NM_018423]  |
| A.21.P0000651  | 2.052 | 1.037 | 2.052 | up | LOC400548     | LINC00548, lincRNA [LOC400548], long non-coding RNA [NR_033844]  |
| A.33.P3603529  | 2.052 | 1.037 | 2.052 | up | CCNY1         | Homo sapiens cyclin Y-like 1 (CCNY1), transcript variant 2, mRNA [NM_192923]   |
| A.23.P1734720  | 2.052 | 1.037 | 2.052 | up | FKBP4         | Homo sapiens FKBP08 binding protein 4, 59kDa (FKBP4), mRNA [NM_020114]   |
| A.23.P128372   | 2.052 | 1.037 | 2.052 | up | HAUS7         | Homo sapiens HAUS augmin-like complex, subunit 7 (HAUS7), transcript variant 1, mRNA [NM_017518]                           |
| A.23.P416034   | 2.051 | 1.037 | 2.051 | up | GOLGA7        | Homo sapiens golgin A7 (GOLGA7), transcript variant 2, mRNA [NM_001002296]   |
| A.23.P711440   | 2.051 | 1.037 | 2.051 | up | CTSLP2        | Homo sapiens cathepsin L, pseudogene 2 (CTSLP2), non-coding RNA [NR_035407]  |
| A.33.P3298889  | 2.051 | 1.036 | 2.051 | up | LOC642681     | Homo sapiens PPO5b mRNA, complete cds. [AF295897]  |
| A.33.P3307680  | 2.051 | 1.036 | 2.051 | up | KLIP1C4       | Homo sapiens ketch domain containing 4 (KLIP1C4), transcript variant 3, mRNA [NM_01184854]                                 |
| A.23.P133385   | 2.051 | 1.036 | 2.051 | up | CDK7          | Homo sapiens cyclin-dependent kinase 7 (CDK7), mRNA [NM_0017193]   |
| A.23.P133386   | 2.051 | 1.036 | 2.051 | up | CDK7A         | Homo sapiens family with serine/threonine kinase similarity 45, member 7 (CDK7), mRNA [NM_153680]                          |
| A.23.P400368   | 2.050 | 1.036 | 2.050 | up | CAZ7          | Homo sapiens family with serine/threonine kinase similarity 45, member 7 (CAZ7), mRNA [NM_13845]                           |
| A.21.P0004473  | 2.050 | 1.036 | 2.050 | up | SNORA84       | Homo sapiens small nucleolar RNA, H2ACA box 84 (SNORA84), small nucleolar RNA [NR_033704]                                  |
| A.23.P43513    | 2.050 | 1.036 | 2.050 | up | WSB1          | Homo sapiens WD repeat and SOCS box containing 1 (WSB1), transcript variant 1, mRNA [NM_014626]                            |
| A.21.P0000320  | 2.049 | 1.035 | 2.049 | up | LOC10192484   | PREDICTED: Homo sapiens uncharacterized LOC10192484 (LOC10192484), transcript variant X6, ncRNA [XR_424825]                |
| A.22.P0001251  | 2.049 | 1.035 | 2.049 | up | inc-PHCP1-1   | UT-OF-EC1-abv1-01-01s1 UT-OF-EC1 Homo sapiens cDNA clone UT-OF-EC1-abv1-01-01s1 3', mRNA sequence [BM670278]               |
| A.33.P3243957  | 2.048 | 1.034 | 2.048 | up | EHBP1         | Homo sapiens EH domain binding protein 1 (EHBP1), transcript variant 1, mRNA [NM_016232]                                   |
| A.33.P3243429  | 2.048 | 1.034 | 2.048 | up | GRP12         | Homo sapiens G protein-coupled receptor 192 (GRP12), mRNA [NM_208977]  |
| A.23.P401014   | 2.048 | 1.034 | 2.048 | up | ARH1          | Homo sapiens aradine RPR E3 ubiquitin protein ligase 1 (ARH1), mRNA [NM_005744]  |
| A.24.P400573   | 2.047 | 1.034 | 2.047 | up | TM6B          | Homo sapiens transmembrane channel-like 8 (TM6B), mRNA [NM_152468]   |
| A.23.P313550   | 2.047 | 1.033 | 2.047 | up | SLC25A41      | Homo sapiens solute carrier family 25, member 41 (SLC25A41), mRNA [NM_172637]  |
| A.23.P347432   | 2.047 | 1.033 | 2.047 | up | DVL1          | Homo sapiens dishevelled segment polarity protein 1 (DVL1), mRNA [NM_004421]   |
| A.33.P0807856  | 2.046 | 1.033 | 2.046 | up | LINC00889     | Homo sapiens long intergenic non-protein coding RNA 889 (LINC00889), long non-coding RNA [NR_024394]                       |
| A.21.P0005789  | 2.045 | 1.032 | 2.045 | up | ZNF424        | Zinc finger protein 404 [Source:HGNC Symbol;Accession:HGNC:19417] [ENS:00000868984]  |
| A.23.P3243520  | 2.045 | 1.032 | 2.045 | up | LOC636323.1-1 | Zinc finger protein 404 (ZNF424), transcript variant 1, mRNA [NM_024263]   |
| A.33.P3243521  | 2.044 | 1.031 | 2.044 | up | TM6B-1        | Homo sapiens transmembrane channel-like 8 (TM6B), transcript variant 1, mRNA [NM_022746]                                   |
| A.33.P3243522  | 2.044 | 1.031 | 2.044 | up | TM6B-2        | Homo sapiens transmembrane channel-like 8 (TM6B), transcript variant 2, mRNA [NM_022746]                                   |
| A.33.P3243523  | 2.044 | 1.031 | 2.044 | up | TM6B-3        | Homo sapiens transmembrane channel-like 8 (TM6B), transcript variant 3, mRNA [NM_022746]                                   |
| A.33.P3243524  | 2.044 | 1.031 | 2.044 | up | TM6B-4        | Homo sapiens transmembrane channel-like 8 (TM6B), transcript variant 4, mRNA [NM_022746]                                   |
| A.33.P3243525  | 2.044 | 1.031 | 2.044 | up | TM6B-5        | Homo sapiens transmembrane channel-like 8 (TM6B), transcript variant 5, mRNA [NM_022746]                                   |
| A.33.P3243526  | 2.044 | 1.031 | 2.044 | up | TM6B-6        | Homo sapiens transmembrane channel-like 8 (TM6B), transcript variant 6, mRNA [NM_022746]                                   |
| A.33.P3243527  | 2.044 | 1.031 | 2.044 | up | TM6B-7        | Homo sapiens transmembrane channel-like 8 (TM6B), transcript variant 7, mRNA [NM_022746]                                   |
| A.33.P3243528  | 2.044 | 1.031 | 2.044 | up | TM6B-8        | Homo sapiens transmembrane channel-like 8 (TM6B), transcript variant 8, mRNA [NM_022746]                                   |
| A.23.P137368   | 2.043 | 1.031 | 2.043 | up | S10A10        | Homo sapiens S10, calcium binding protein A10 (S10A10), mRNA [NM_029266]   |
| A.24.P127864   | 2.043 | 1.031 | 2.043 | up | SPACAP        | Homo sapiens sperm astrosome associated 6, pseudogene (SPACAP), long non-coding RNA [NR_024330]                            |
| A.23.P143884   | 2.043 | 1.031 | 2.043 | up | SOX10         | Homo sapiens SOX10, homeobox domain containing 2 (SOX10), transcript variant 1, mRNA [NM_006411]                           |
| A.24.P88642    | 2.043 | 1.030 | 2.043 | up | GC02          | Homo sapiens STRY (sex determining region Y)-box 10 (SOX10), mRNA [NM_006411]  |
| A.23.P12147    | 2.042 | 1.030 | 2.042 | up | CTIF74        | Homo sapiens GRP and coiled-coil domain containing 2 (GC02), transcript variant 1, mRNA [NM_181455]                        |
| A.22.P00018323 | 2.042 | 1.030 | 2.042 | up | SSPO          | Homo sapiens SCO-spondin (SSPO), mRNA [NM_189455]  |
| A.24.P148094   | 2.042 | 1.030 | 2.042 | up | LEPROT        | Homo sapiens leprosin receptor overlapping transcript (LEPROT), transcript variant 1, mRNA [NM_017528]                     |
| A.21.P0000653  | 2.041 | 1.029 | 2.041 | up | SBF2-AS1      | Homo sapiens SBF2 antisense RNA 1 (SBF2-AS1), long non-coding RNA [NR_064455]  |
| A.22.P00010189 | 2.040 | 1.028 | 2.040 | up | LOC10193937   | PREDICTED: Homo sapiens uncharacterized LOC10193937 (LOC10193937), mRNA [XR_244886]  |
| A.23.P424568   | 2.039 | 1.028 | 2.039 | up | LOC63922-1    | PREDICTED: Homo sapiens uncharacterized LOC63922 (LOC63922), mRNA [XR_269092]  |
| A.22.P0004383  | 2.038 | 1.027 | 2.038 | up | MAI2          | Homo sapiens mal T-cell differentiation protein 2 (MAI2), mRNA [NM_015288]   |
| A.33.P3688557  | 2.037 | 1.027 | 2.037 | up | SDC4-PEP1     | chromosome 5 open reading frame 17 [Source:HGNC Symbol;Accession:HGNC:24650] [ENS:00000307338]                             |
| A.33.P3407424  | 2.037 | 1.027 | 2.037 | up | PAAB-AS1      | Homo sapiens PAAB antisense RNA 1 (PAAB-AS1), transcript variant 2, long non-coding RNA [NR_047570]                        |
| A.33.P6814367  | 2.037 | 1.026 | 2.037 | up | IGFBP2        | Homo sapiens insulin-like growth factor 2 mRNA binding protein 2 (IGFBP2), transcript variant 1, mRNA [NM_006546]          |
| A.23.P250156   | 2.036 | 1.026 | 2.036 | up | LOC101929541  | Homo sapiens uncharacterized LOC101929541 (LOC101929541), transcript variant 2, long non-coding RNA [NM_006546]            |
| A.32.P266104   | 2.036 | 1.026 | 2.036 | up | IBER3         | Homo sapiens immediate early response 3 (IBER3), mRNA [NM_006387]  |
| A.33.P342351   | 2.035 | 1.025 | 2.035 | up | inc-SPAG16-4  | RNU6049 chrysin-110 [Rattus norvegicus] (esp-1, wge-9, cef-0), paralog (16), [THC845477]                                   |
| A.21.P0002342  | 2.035 | 1.025 | 2.035 | up | FKBP1B        | LINC01612, lincRNA [nc-SPAG16-4], lincRNA [nc-SPAG16-4], mRNA [NM_015288]  |
| A.23.P124231   | 2.035 | 1.025 | 2.035 | up | LOC6392-1     | Homo sapiens FKBP08 binding protein 1B, 128 kDa (FKBP1B), transcript variant 2, mRNA [NM_050033]                           |
| A.22.P0000523  | 2.034 | 1.024 | 2.034 | up | LOC6392-2     | Homo sapiens FKBP08 binding protein 1B, 128 kDa (FKBP1B), transcript variant 1, mRNA [NM_050033]                           |
| A.21.P0000246  | 2.033 | 1.024 | 2.033 | up | NU51          | LINC01612, lincRNA [nc-TK2-5], lincRNA [nc-TK2-5], mRNA [NM_016518]  |
| A.33.P3317282  | 2.033 | 1.023 | 2.033 | up | LOC6392-3     | Homo sapiens nuclear endoplasmic reticulum chaperone 1 homolog (S. cerevisiae) (NU51), mRNA [NM_016518]                    |
| A.33.P3210880  | 2.032 | 1.023 | 2.032 | up | STEAP4        | Source:HGNC Symbol;Accession:HGNC:30611 [ENS:00000565670]  |
| A.22.P00012644 | 2.032 | 1.023 | 2.032 | up | STEAP4        | Homo sapiens STEAP family member 4 (STEAP4), transcript variant 2, mRNA [NM_001203315]                                     |
| A.33.P3553837  | 2.032 | 1.023 | 2.032 | up | ARHGAP8       | Homo sapiens Rho GTPase activating protein 8 (ARHGAP8), transcript variant 3, mRNA [NM_001199726]                          |
| A.33.P3488675  | 2.032 | 1.023 | 2.032 | up | DOPEY2        | Homo sapiens dopey family member 2 (DOPEY2), mRNA [NM_005128]  |
| A.22.P253386   | 2.031 | 1.022 | 2.031 | up |               |  |

|                |       |       |       |                  |   |
|----------------|-------|-------|-------|------------------|---|
| A.22.P00024657 | 2.031 | 1.022 | 2.031 | LOC100288798     | Homo sapiens uncharacterized LOC100288798 (LOC100288798), transcript variant 1, long non-coding RNA [NM_123377]               |
| A.23.P276172   | 2.031 | 1.022 | 2.031 | LOC1064          | Homo sapiens chromosome 1 open reading frame 64 (C1orf64), mRNA [NM_178840]   |
| A.23.P40838    | 2.030 | 1.022 | 2.030 | TNFRSF12A        | Homo sapiens tumor necrosis factor receptor superfamily, member 12A (TNFRSF12A), mRNA [NM_018639]                             |
| A.21.P000206   | 2.030 | 1.022 | 2.030 | linc-C5orf98-3   | linc-C5orf98-3, lincRNA [linc-C5orf98-3-1]  |
| A.21.P0017256  | 2.030 | 1.021 | 2.030 | linc-C5orf98-3   | linc-C5orf98-3, lincRNA [linc-C5orf98-3-1]  |
| A.21.P0011226  | 2.030 | 1.021 | 2.030 | LINC009571       | long intergenic non-protein coding RNA 571 [Source:HGNC Symbol;Acc:HGNC:43721]  |
| A.23.P123096   | 2.029 | 1.021 | 2.029 | GNQT1            | Homo sapiens gamma nucleotide binding protein (G protein), gamma transducing activity polypeptide 1 (GNQT1), mRNA [NM_021939] |
| A.33.P2056341  | 2.029 | 1.021 | 2.029 | NSL1             | Homo sapiens nuclear speckle protein 1, homolog (Drosophila) (NSL1), mRNA [NM_001022441]                                      |
| A.22.P0001829  | 2.029 | 1.021 | 2.029 | LOC224830        | Homo sapiens uncharacterized LOC224830, transcript variant 1, mRNA [NM_020468]  |
| A.24.P244426   | 2.029 | 1.021 | 2.029 | GAC3BP           | Homo sapiens calcium binding protein 3 (GAC3BP), transcript variant 1, mRNA [NM_014412]                                       |
| A.33.P2401428  | 2.029 | 1.021 | 2.029 | TMEM88B          | Homo sapiens transmembrane protein 88B (TMEM88B), mRNA [NM_018112]  |
| A.21.P0000147  | 2.029 | 1.021 | 2.029 | PGM3             | Homo sapiens phosphoglucomutase 3 (PGM3), transcript variant 4, mRNA [NM_00119919]  |
| A.21.P0012664  | 2.029 | 1.021 | 2.029 | LOC285444        | Homo sapiens uncharacterized LOC285444 (LOC285444), long non-coding RNA [NM_027863]   |
| A.23.P211463   | 2.028 | 1.020 | 2.028 | TMPPRSS4         | Homo sapiens transmembrane protease, serine 4 (TMPPRSS4), transcript variant 2, mRNA [NM_153609]                              |
| A.33.P336475   | 2.028 | 1.020 | 2.028 | ZBTB21           | zinc finger and BTB domain containing 21 [Source:HGNC Symbol;Acc:HGNC:3083]   |
| A.23.P4672     | 2.028 | 1.020 | 2.028 | MYL12A           | Homo sapiens myosin, light chain 12A, regulatory, non-sarcomeric (MYL12A), transcript variant 1, mRNA [NM_006471]             |
| A.33.P294486   | 2.028 | 1.020 | 2.028 | S6orf211         | Homo sapiens chromosome 6 open reading frame 211 (C6orf211), transcript variant 1, mRNA [NM_024573]                           |
| A.22.P00023581 | 2.027 | 1.019 | 2.027 | C22D3D           | Homo sapiens C2, calcium-dependent domain containing 4D (C22D3D), mRNA [NM_001136053]   |
| A.33.P324024   | 2.027 | 1.019 | 2.027 | RNF208           | Homo sapiens ring finger protein 208 (RNF208), mRNA [NM_031297]   |
| A.33.P321070   | 2.027 | 1.019 | 2.027 | RNF1             | Homo sapiens neighbor of BRCA1 gene 1 (RNF1), transcript variant 4, mRNA [NM_001913171]                                       |
| A.24.P162236   | 2.027 | 1.019 | 2.027 | PER1             | Homo sapiens perlecan core protein 1 (PER1), mRNA [NM_026216]   |
| A.23.P08589    | 2.027 | 1.019 | 2.027 | DEF8             | Homo sapiens differentially expressed in FICP 8 homolog (mouse) (DEF8), transcript variant 2, mRNA [NM_017702]                |
| A.24.P18948    | 2.026 | 1.019 | 2.026 | DEF8             | Homo sapiens differentially expressed in FICP 8 homolog (mouse) (DEF8), transcript variant 2, mRNA [NM_017702]                |
| A.22.P00012654 | 2.026 | 1.019 | 2.026 | ZNF241-AS1       | Homo sapiens ZNF241 antisense RNA 1 (ZNF241-AS1), long non-coding RNA [NR_110823]   |
| A.24.P187468   | 2.026 | 1.018 | 2.026 | BD               | Homo sapiens BHLH interacting domain death agonist (BD), transcript variant 1, mRNA [NM_197906]                               |
| A.23.P35856    | 2.025 | 1.018 | 2.025 | NBPAL2           | Homo sapiens NEDD4 binding protein 2-like 2 (NBPAL2), transcript variant 2, mRNA [NM_014887]                                  |
| A.33.P2261700  | 2.025 | 1.017 | 2.025 | ANKRD13C         | Homo sapiens ankyrin repeat domain 13C (ANKRD13C), mRNA [NM_030816]   |
| A.23.P155900   | 2.024 | 1.017 | 2.024 | NHPFR2           | Homo sapiens natriuretic peptide receptor 2 (NHPFR2), transcript variant 2, mRNA [NM_058036]                                  |
| A.24.P043813   | 2.024 | 1.017 | 2.024 | TBC1D1           | Homo sapiens TBC1 (Tvc-2) USP6, BUR2, oto 1b domain family, member 1 (TBC1D1), transcript variant 1, mRNA [NM_016173]         |
| A.23.P109143   | 2.023 | 1.017 | 2.023 | PRNP             | Homo sapiens prion protein (PRNP), transcript variant 1, mRNA [NM_000311]   |
| A.33.P0219565  | 2.023 | 1.016 | 2.023 | KOMRA            | Homo sapiens lysine (K)-specific demethylase 6A (KOMRA), transcript variant 1, mRNA [NM_001287609]                            |
| A.23.P103532   | 2.023 | 1.016 | 2.023 | GPR161           | Homo sapiens G protein-coupled receptor 161 (GPR161), transcript variant 1, mRNA [NM_001287609]                               |
| A.22.P77415    | 2.022 | 1.016 | 2.022 | OSGIN1           | Homo sapiens oxidative stress induced growth inhibitor 1 (OSGIN1), mRNA [NM_182881]   |
| A.21.P0001081  | 2.022 | 1.015 | 2.022 | LOC10192494      | PREDICTED: Homo sapiens uncharacterized LOC10192494 (LOC10192494), transcript variant X4, cDNA [XR_424823]                    |
| A.21.P0008321  | 2.020 | 1.015 | 2.020 | LOC10192494      | PREDICTED: Homo sapiens uncharacterized LOC10192494 (LOC10192494), transcript variant X4, cDNA [XR_424823]                    |
| A.24.P4705     | 2.020 | 1.015 | 2.020 | PPME1            | Homo sapiens protein phosphatase methyltransferase 1 (PPME1), transcript variant 1, mRNA [NM_016142]                          |
| A.23.P132121   | 2.020 | 1.014 | 2.020 | SIK1             | Homo sapiens salt-inducible kinase 1 (SIK1), mRNA [NM_173954]   |
| A.33.P292978   | 2.020 | 1.014 | 2.020 | KRTAP10-4        | Homo sapiens keratin associated protein 10-4 (KRTAP10-4), mRNA [NM_198887]  |
| A.22.P00021196 | 2.019 | 1.014 | 2.019 | linc-POU5F1B-3   | linc-POU5F1B-3, lincRNA [linc-POU5F1B-3-3]  |
| A.33.P272448   | 2.018 | 1.013 | 2.018 | ART3             | Homo sapiens ADP-ribosyltransferase 3 (ART3), transcript variant 3, mRNA [NM_001130017]                                       |
| A.23.P130753   | 2.018 | 1.013 | 2.018 | DBP              | Homo sapiens D site of albumin promoter (albumin D-box) binding protein (DBP), mRNA [NM_001352]                               |
| A.33.P3248195  | 2.018 | 1.013 | 2.018 | GFAP46           | Homo sapiens cilia and flagella associated protein 46 (GFAP46), mRNA [NM_001200049]   |
| A.22.P00012877 | 2.018 | 1.013 | 2.018 | linc-GPCT-2      | linc-GPCT-2, lincRNA [linc-GPCT-2-1]  |
| A.21.P00000556 | 2.017 | 1.012 | 2.017 | TMEM41B          | Homo sapiens transmembrane protein 41B (TMEM41B), transcript variant 2, mRNA [NM_001165030]                                   |
| A.24.P06671    | 2.017 | 1.012 | 2.017 | DNAJ1            | Homo sapiens DnaJ (Hsp40) homolog, subfamily A, member 1 (DNAJ1), mRNA [NM_001559]  |
| A.21.P0010988  | 2.017 | 1.012 | 2.017 | linc-C20orf186-2 | linc-C20orf186-2, lincRNA [linc-C20orf186-2-1]  |
| A.33.P14574    | 2.017 | 1.012 | 2.017 | CAC1BP           | Homo sapiens calyxin binding protein (CAC1BP), transcript variant 1, mRNA [NM_014412]   |
| A.33.P327226   | 2.017 | 1.012 | 2.017 | LOC244166        | Homo sapiens zinc finger protein 91 pseudogene (LOC244166), non-coding RNA [NR_024930]  |
| A.23.P08883    | 2.017 | 1.012 | 2.017 | DEF8             | Homo sapiens differentially expressed in FICP 8 homolog (mouse) (DEF8), transcript variant 2, mRNA [NM_017702]                |
| A.23.P217054   | 2.017 | 1.012 | 2.017 | DCAF10           | Homo sapiens DDB1 and CUL4 associated factor 10 (DCAF10), transcript variant 1, mRNA [NM_026345]                              |
| A.23.P208835   | 2.016 | 1.012 | 2.016 | MAP2K2           | Homo sapiens mitogen-activated protein kinase, kinase 2 (MAP2K2), mRNA [NM_038662]  |
| A.21.P0007228  | 2.016 | 1.011 | 2.016 | linc-MYEOV-3     | linc-MYEOV-3, lincRNA [linc-MYEOV-3-1]  |
| A.22.P06036    | 2.015 | 1.011 | 2.015 | MEK3A            | Homo sapiens mek-3 RNA binding family member A (MEK3A), mRNA [NM_001093725]   |
| A.22.P00003640 | 2.015 | 1.011 | 2.015 | linc-CD80-1      | linc-CD80-1, lincRNA [linc-CD80-1-1]  |
| A.21.P0000051  | 2.015 | 1.011 | 2.015 | DISC1            | Homo sapiens disrupted in schizophrenia 1 (DISC1), transcript variant n, mRNA [NM_001164551]                                  |
| A.23.P163480   | 2.015 | 1.011 | 2.015 | CEPNT            | Homo sapiens centromere protein T (CEPNT), mRNA [NM_025082]   |
| A.23.P44724    | 2.015 | 1.011 | 2.015 | CSRP2            | Homo sapiens cysteine and glycine-rich protein 2 (CSRP2), transcript variant 1, mRNA [NM_0011921]                             |
| A.23.P407585   | 2.015 | 1.011 | 2.015 | OXSR1            | Homo sapiens choline (O-X-S-C motif) receptor 1 (OXSR1), transcript variant 4, mRNA [NM_001337]                               |
| A.24.P167984   | 2.014 | 1.010 | 2.014 | ATMIN            | Homo sapiens ATM interactor (ATMIN), transcript variant 1, mRNA [NM_019251]   |
| A.22.P00004191 | 2.014 | 1.010 | 2.014 | LOC101928817     | PREDICTED: Homo sapiens uncharacterized LOC101928817 (LOC101928817), transcript variant X2, cDNA [XR_24017]                   |
| A.22.P0022446  | 2.013 | 1.009 | 2.013 | HIST1H2AJ        | Homo sapiens histone cluster 1, H2a, (HIST1H2A, J), mRNA [NM_021086]  |
| A.33.P334066   | 2.013 | 1.008 | 2.013 | SLC22A23         | Homo sapiens solute carrier family 22, member 23 (SLC22A23), transcript variant 1, mRNA [NM_015492]                           |
| A.33.P3408154  | 2.012 | 1.008 | 2.012 | ZNF492           | Homo sapiens zinc finger protein 492 (ZNF492), mRNA [NM_020859]   |
| A.23.P163855   | 2.012 | 1.007 | 2.012 | ARID5B           | Homo sapiens AT-rich interactive domain 5B (ARID5B), transcript variant 1, mRNA [NM_026199]                                   |
| A.32.P18440    | 2.009 | 1.007 | 2.009 | ARID5B           | Homo sapiens AT-rich interactive domain 5B (ARID5B), transcript variant 1, mRNA [NM_026199]                                   |
| A.23.P208482   | 2.009 | 1.007 | 2.009 | CLEC4M           | Homo sapiens C-type lectin domain family 4, member M (CLEC4M), transcript variant 2, mRNA [NM_001143904]                      |

|                |           |         |          |              |   |
|----------------|-----------|---------|----------|--------------|---|
| A.23.P160438   | 2.008     | 1.006   | 2.008    | MYO6         | Human myosin VI (myosin VI) mRNA [NM_002479]  |
| A.23.P144468   | 2.008     | 1.006   | 2.008    | GANK2D       | Human sapiens calcium/calmodulin-dependent protein kinase II delta (CAMK2D), transcript variant 3, mRNA [NM_001221]             |
| A.24.P414712   | 2.007     | 1.005   | 2.007    | BRPF3        | Human sapiens bromodomain and PHD finger containing 3 (BRPF3), mRNA [NM_015695]   |
| A.21.P000887   | 2.007     | 1.005   | 2.007    | LOC101927326 | HUMTIN 1P ORF 2 [Homo sapiens] (exp=1, wgs=9, gfc=0), partial (10), [TIC2577654]  |
| A.21.P0010295  | 2.006     | 1.004   | 2.006    | LOC101927326 | Human sapiens zinc finger protein 254 (ZNF254), transcript variant 4, mRNA [NM_003228]  |
| A.23.P144088   | 2.006     | 1.004   | 2.006    | BRF6         | Human sapiens interferon regulatory factor 6 (IRF6), transcript variant 1, mRNA [NM_008147]                                     |
| A.21.P0010688  | 2.006     | 1.004   | 2.006    | LOC101927326 | PREDICTED: Homo sapiens uncharacterized LOC101927326 (LOC101927326), mRNA [XR244183]  |
| A.23.P063330   | 2.005     | 1.003   | 2.005    | IRF6         | Human sapiens immediate early response 3 (IER3), mRNA [NM_010545]   |
| A.23.P037190   | 2.003     | 1.003   | 2.003    | LOC101927326 | Human sapiens zinc finger protein 254 (ZNF254), transcript variant 2, mRNA [NM_018101]  |
| A.23.P24375    | 2.004     | 1.003   | 2.004    | OBSCN        | Human sapiens obscurin, cytoskeletal catenin and F-actin-interacting (OBSCN), transcript variant 1, mRNA [NM_052843]            |
| A.33.P0270599  | 2.004     | 1.003   | 2.004    | TPM2         | Human sapiens tropomyosin 2, beta1 (TPM2), transcript variant 2, mRNA [NM_001301228]  |
| A.23.P16743    | 2.003     | 1.002   | 2.003    | MGAT5        | Human sapiens mannosyl (alpha 1,6)-glycosyltransferase 5 (MGAT5), mRNA [NM_002410]  |
| A.23.P040091   | 2.003     | 1.002   | 2.003    | GRPEL2       | Human sapiens GRPE-like 2, mitochondrial (E. coli) (GRPEL2), mRNA [NM_152407]   |
| A.32.P171788   | 2.003     | 1.002   | 2.003    | FKBP4        | Human sapiens FKBP08 binding protein 4, 59kDa (FKBP4), mRNA [NM_002014]   |
| A.23.P122863   | 2.003     | 1.002   | 2.003    | GRB10        | Human sapiens growth factor receptor-bound protein 10 (GRB10), transcript variant 4, mRNA [NM_001001555]                        |
| A.22.P00022787 | 2.003     | 1.002   | 2.003    | LOC101929181 | Human sapiens uncharacterized LOC101929181 (LOC101929181), long non-coding RNA [NR_104624]                                      |
| A.23.P049168   | 2.003     | 1.002   | 2.003    | INBEAL2      | Human sapiens neurobeachin-like 2 (INBEAL2), mRNA [NM_015175]   |
| A.22.P00025235 | 2.003     | 1.002   | 2.003    | CAMK1D       | DA10327 BRAMY3 Homo sapiens cDNA clone BRAMY3/269575, mRNA sequence [DA190327] [ENS:0000378885]                                 |
| A.23.P124252   | 2.003     | 1.002   | 2.003    | CAMK1D       | calcium/calmodulin-dependent protein kinase II [Source:HGNC Symbol;Acc:HGNC:19341] [ENS:0000378885]                             |
| A.33.P0282913  | 2.002     | 1.001   | 2.002    | MG057346     | Human sapiens ADP-ribosylation factor pseudogene (MG057346), transcript variant 2, non-coding RNA [NR_027295]                   |
| A.33.P0282909  | 2.000     | 1.000   | 2.000    | OTOP2        | Human sapiens otolith protein 2 (OTOP2), mRNA [NM_178160]   |
| A.19.P00321403 | 2.000     | 1.000   | 2.000    | LOC101929832 | PREDICTED: Homo sapiens uncharacterized LOC101929832 (LOC101929832), mRNA [XR245847]  |
| A.23.P165588   | -1023.732 | -10.000 | 1023.732 | DAR1L        | Human sapiens death associated protein-like 1 (DAR1L), mRNA [NM_001017920]  |
| A.33.P0300259  | -239.085  | -0.017  | 239.085  | SXCL14       | Human sapiens chemokine (C-X-C motif) ligand 14 (CXCL14), mRNA [NM_004887]  |
| A.23.P292441   | -147.911  | -7.029  | 147.911  | RAB7B        | Human sapiens RAB7B, member RAS oncogene family (RAB7B), transcript variant 1, mRNA [NM_177403]                                 |
| A.24.P089232   | -109.273  | -6.772  | 109.273  | CCDC93       | Human sapiens coiled-coil domain containing 3 (CCDC93), transcript variant 1, mRNA [NM_031465]                                  |
| A.23.P121926   | -103.511  | -6.684  | 103.511  | SEPP1        | Human sapiens septin protein P. plasma, 1 (SEPP1), transcript variant 1, mRNA [NM_005410]                                       |
| A.33.P0282742  | -97.080   | -6.801  | 97.080   | DARPL1       | Human sapiens death associated protein-like 1 (DARPL1), mRNA [NM_001017920]   |
| A.33.P152127   | -91.704   | -6.519  | 91.704   | KANK4        | Human sapiens KIF motif and ankyrin repeat domains 4 (KANK4), mRNA [NM_181712]  |
| A.33.P0245486  | -88.554   | -6.468  | 88.554   | IGF1L        | Human sapiens IGF-like family member 4 (IGF1L), mRNA [NM_001002953]   |
| A.23.P07700    | -82.944   | -6.374  | 82.944   | TXNIP        | Human sapiens thioredoxin interacting protein (TXNIP), mRNA [NM_006479]   |
| A.23.P092730   | -82.330   | -6.374  | 82.330   | HSPB3        | Human sapiens heat shock 70kDa protein 3 (HSPB3), mRNA [NM_006308]  |
| A.23.P06886    | -62.483   | -5.988  | 62.483   | DSS1         | Human sapiens desmocollin 1 (DSS1), transcript variant Dss1b, mRNA [NM_004948]  |
| A.23.P09525    | -62.317   | -5.982  | 62.317   | FAM124B      | Human sapiens family with sequence similarity 124B (FAM124B), transcript variant 2, mRNA [NM_027855]                            |
| A.23.P144126   | -53.105   | -4.863  | 53.105   | CE1UB        | Human sapiens protein CE1UB (CE1UB), mRNA [NM_014315]   |
| A.23.P039129   | -52.724   | -4.863  | 52.724   | MYO10        | Human sapiens myosin X (myosin X), member 4 (MYO10), mRNA [NM_030376]   |
| A.21.P0000963  | -52.226   | -3.767  | 52.226   | LOC101929832 | COA1185_AZCOV1 (COA1185) Membrane-associated motif-associated hydrophobic motif (G5), [TIC2638461]                              |
| A.23.P004304   | -44.301   | -3.471  | 44.301   | ARSF         | Human sapiens arylsulfatase F (ARSF), transcript variant 1, mRNA [NM_000402]  |
| A.23.P127011   | -42.491   | -3.409  | 42.491   | PAMR1        | Human sapiens peptidase domain containing associated with muscle regeneration 1 (PAMR1), transcript variant 1, mRNA [NM_015430] |
| A.23.P106254   | -40.537   | -3.341  | 40.537   | FAM20A       | Human sapiens family with sequence similarity 20, member A (FAM20A), transcript variant 1, mRNA [NM_017565]                     |
| A.23.P039197   | -39.666   | -3.310  | 39.666   | SMAD5-AS1    | Human sapiens SMAD5 antisense RNA 1 (SMAD5-AS1), long non-coding RNA [NR_028783]  |
| A.23.P08702    | -39.150   | -3.291  | 39.150   | PIP          | Human sapiens phosphatidylinositol 3-OH kinase class I (PI3K) catalytic subunit isoform 1 (PIP), mRNA [NM_002652]               |
| A.22.P00011370 | -36.500   | -3.192  | 36.500   | P2RX7        | Human sapiens purinergic receptor P2X, ligand-gated ion channel, 7 [Source:HGNC Symbol;Acc:HGNC:8537] [ENS:0000398963]          |
| A.22.P00015445 | -36.108   | -3.177  | 36.108   | LOC100605684 | PREDICTED: Homo sapiens uncharacterized LOC100605684 (LOC100605684), transcript variant X1, mRNA [XR_009653]                    |
| A.33.P0283887  | -35.861   | -3.164  | 35.861   | P2RX7        | Human sapiens purinergic receptor P2X, ligand-gated ion channel, 7 (P2RX7), transcript variant 1, mRNA [NM_002652]              |
| A.23.P001055   | -35.417   | -3.166  | 35.417   | SOX2         | Human sapiens SOX2 (sex determining region Y-box 2) (SOX2), mRNA [NM_003106]  |
| A.23.P037368   | -31.756   | -3.059  | 31.756   | LOC101927326 | Human sapiens uncharacterized LOC101927326 (LOC101927326), long non-coding RNA [NR_126444]                                      |
| A.23.P031526   | -31.684   | -3.027  | 31.684   | COL5A2       | Human sapiens collagen V, alpha 2 (COL5A2), mRNA [NM_001321]  |
| A.23.P131526   | -32.920   | -3.041  | 32.920   | ACKR3        | Human sapiens atypical chemokine receptor 3 (ACKR3), mRNA [NM_028311]   |
| A.23.P415021   | -32.840   | -3.029  | 32.840   | METTL7A      | Human sapiens methyltransferase like 7A (METTL7A), mRNA [NM_014033]   |
| A.23.P000925   | -32.159   | -3.007  | 32.159   | CYP11B1      | Human sapiens cytochrome P450, family 1, subfamily B, polypeptide 1 (CYP11B1), mRNA [NM_000104]                                 |
| A.23.P027181   | -31.756   | -2.989  | 31.756   | MM7P         | Human sapiens matrix metalloproteinase 7 (matrilysin, urokinase) (MM7P), mRNA [NM_002423]                                       |
| A.33.P0217437  | -31.667   | -2.985  | 31.667   | GPBP6        | Human sapiens guanylate binding protein family, member 6 (GPBP6), mRNA [NM_198400]  |
| A.23.P037248   | -31.563   | -2.981  | 31.563   | CLCA2        | Human sapiens chloride channel accessory 2 (CLCA2), mRNA [NM_006536]  |
| A.23.P040453   | -30.248   | -2.974  | 30.248   | GBR3         | Human sapiens gamma-aminobutyrate decarboxylase 3 (GBR3), mRNA [NM_001228]  |
| A.23.P167599   | -30.056   | -2.910  | 30.056   | FAM134B      | Human sapiens family with sequence similarity 134, member B (FAM134B), transcript variant 1, mRNA [NM_001034859]                |
| A.23.P02480    | -29.109   | -2.883  | 29.109   | CYP2C18      | Human sapiens cytochrome P450, family 2, subfamily C, polypeptide 18 (CYP2C18), transcript variant 1, mRNA [NM_000772]          |
| A.33.P0200343  | -28.986   | -2.858  | 28.986   | CYP11B1      | Human sapiens cytochrome P450, family 1, subfamily B, polypeptide 1 (CYP11B1), mRNA [NM_000104]                                 |
| A.21.P023215   | -27.018   | -2.758  | 27.018   | SIDT1        | Human sapiens SID1 transmembrane family, member 1 (SIDT1), mRNA [NM_017699]   |
| A.21.P0003314  | -26.774   | -2.743  | 26.774   | LOC101927326 | Human sapiens SID1 transmembrane family, member 1 (SIDT1), transcript variant 3, mRNA [NM_001032726]                            |
| A.24.P020479   | -25.426   | -2.659  | 25.426   | SH3P2        | Human sapiens serpin peptidase inhibitor type 2 (SH3P2), transcript variant 1, mRNA [NM_000116]                                 |
| A.19.P0031053  | -25.157   | -2.653  | 25.157   | LOC101927326 | Human sapiens zinc finger protein 254 (ZNF254), transcript variant 1, mRNA [NM_003228]  |
| A.23.P10025    | -24.834   | -2.640  | 24.834   | NELL2        | Human sapiens NEEL-like 2 (chicken) (NELL2), transcript variant 2, mRNA [NM_001190]   |
| A.23.P0801     | -24.811   | -2.642  | 24.811   | CYP3A5       | Human sapiens cytochrome P450, family 3, subfamily A, polypeptide 5 (CYP3A5), transcript variant 1, mRNA [NM_000777]            |
| A.22.P00015400 | -24.147   | -2.594  | 24.147   | LOC102723834 | PREDICTED: Homo sapiens uncharacterized LOC102723834 (LOC102723834), mRNA [XR_425103]   |
| A.22.P035414   | -23.817   | -2.574  | 23.817   | PPP1R3C      | Human sapiens protein phosphatase 1, regulatory subunit 3C (PPP1R3C), mRNA [NM_005390]  |



|                |         |        |        |               |   |
|----------------|---------|--------|--------|---------------|---|
| A.24.P30518    | -23.776 | -4.571 | 23.776 | CA12          | Homo sapiens carbonic anhydrase XII (CA12), transcript variant 1, mRNA [NM_001218]  |
| A.23.P8669     | -23.557 | -4.588 | 23.557 | KCNK10        | Homo sapiens potassium channel, two pore domain subfamily K, member 10 (KCNK10), transcript variant 1, mRNA [NM_021181]             |
| A.23.P17065    | -23.328 | -4.544 | 23.328 | CC120         | Homo sapiens chemokine (C-C motif) ligand 20 (CCL20), transcript variant 1, mRNA [NM_004911]  |
| A.22.P0013776  | -22.968 | -4.522 | 22.968 | XAF1          | Homo sapiens XAP associated factor 1 (XAF1), transcript variant 1, mRNA [NM_017593]   |
| A.24.P557479   | -22.941 | -4.520 | 22.941 | SH3BP1        | Homo sapiens SH3 domain containing protein (SH3BP1), transcript variant 1, mRNA [NM_004772]   |
| A.33.P2957603  | -22.837 | -4.513 | 22.837 | GSTA4         | Homo sapiens glutathione S-transferase alpha 4 (GSTA4), mRNA [NM_001512]  |
| A.24.P43024    | -22.444 | -4.488 | 22.444 | NREP          | Homo sapiens neuronal regeneration related protein (NREP), transcript variant 1, mRNA [NM_004772]                                   |
| A.24.P407259   | -22.383 | -4.484 | 22.383 | SOX21         | Homo sapiens SOX21 (sex determining region Y-box 21) (SOX21), mRNA [NM_007084]  |
| A.23.P28922    | -21.845 | -4.449 | 21.845 | LINC000640    | Homo sapiens long intergenic non-protein coding RNA 640 (LINC000640), long non-coding RNA [NR_138355]                               |
| A.33.P3247923  | -20.994 | -4.382 | 20.994 | LYN           | Homo sapiens tyrosine kinase (SH2 domain containing) (LYN), mRNA [NM_000765]  |
| A.23.P26817    | -20.759 | -4.376 | 20.759 | CEBPA3        | Homo sapiens C/EBP family class B transcription factor 3 (CEBPA3), mRNA [NM_001263111]  |
| A.23.P126848   | -20.527 | -4.359 | 20.527 | CEBPA2        | Homo sapiens C/EBP family class B transcription factor 2 (CEBPA2), transcript variant 2, mRNA [NM_000779]                           |
| A.23.P114713   | -20.507 | -4.358 | 20.507 | CYP4B1        | Homo sapiens cytochrome P450, family 4, subfamily B, polypeptide 1 (CYP4B1), transcript variant 2, mRNA [NM_000779]                 |
| A.33.P260350   | -20.243 | -4.339 | 20.243 | KANK6         | Homo sapiens KANK motif and ankyrin repeat domains 6 (KANK6), mRNA [NM_181712]  |
| A.23.P184088   | -19.981 | -4.321 | 19.981 | DNAAF9        | Homo sapiens dectin, axonin, heavy chain 9 (DNAAF9), transcript variant 2, mRNA [NM_001372]   |
| A.23.P110804   | -19.608 | -4.293 | 19.608 | GSTT4         | Homo sapiens glutathione S-transferase theta 4 (GSTT4), mRNA [NM_001512]  |
| A.33.P381765   | -19.487 | -4.284 | 19.487 | PANP4         | Homo sapiens peroxisomal membrane protein 4, 24kDa (PANP4), transcript variant 1, mRNA [NM_007238]                                  |
| A.24.P342829   | -19.241 | -4.266 | 19.241 | SLC16A14      | Homo sapiens solute carrier family 16, member 14 (SLC16A14), mRNA [NM_152927]   |
| A.23.P201066   | -19.161 | -4.260 | 19.161 | SUSD4         | Homo sapiens sushi domain containing 4 (SUSD4), transcript variant 2, mRNA [NM_001037175]   |
| A.33.P3406661  | -18.672 | -4.223 | 18.672 | TMEM303       | Homo sapiens transmembrane protein 330 (TMEM303), mRNA [NM_020431]  |
| A.23.P46958    | -18.306 | -4.194 | 18.306 | EGFR2         | Homo sapiens early growth response 2 (EGFR2), transcript variant 1, mRNA [NM_000699]  |
| A.23.P8452     | -19.205 | -4.186 | 19.205 | LFNG          | Homo sapiens LFNG O-fucosyltransferase 3-like N-acetylglucosaminyltransferase (LFNG), transcript variant 1, mRNA [NM_0040107]       |
| A.23.P93841    | -18.131 | -4.180 | 18.131 | AKR1B10       | Homo sapiens adenosine 5'-phosphatase family 1, member B10 (aldose reductase) (AKR1B10), mRNA [NM_020999]                           |
| A.23.P108501   | -17.082 | -4.094 | 17.082 | EPA4A         | Homo sapiens EPA4 receptor A4 (EPA4A), mRNA [NM_004438]   |
| A.23.P83134    | -17.042 | -4.091 | 17.042 | GAS1          | Homo sapiens growth arrest specific 1 (GAS1), mRNA [NM_020248]  |
| A.19.P00315518 | -16.844 | -4.074 | 16.844 | LOG101927/888 | Homo sapiens uncharacterized LOC101927/888 (LOC101927/888), long non-coding RNA [NR_129844]   |
| A.23.P40975    | -16.641 | -4.057 | 16.641 | KRT10         | Homo sapiens keratin 10, type I, KRT10, mRNA [NM_000421]  |
| A.23.P85683    | -16.524 | -4.047 | 16.524 | GBP2          | Homo sapiens guanylate binding protein 2, interferon-inducible (GBP2), mRNA [NM_004120]   |
| A.23.P102117   | -16.474 | -4.042 | 16.474 | WNT10A        | Homo sapiens wingless-type MMTV integration site family, member 10A (WNT10A), mRNA [NM_022116]                                      |
| A.24.P192188   | -16.464 | -4.041 | 16.464 | PRICKLE2      | Homo sapiens prickle homolog 2 (Drosophila) (PRICKLE2), mRNA [NM_188389]  |
| A.23.P86470    | -16.459 | -4.041 | 16.459 | CHP2H         | Homo sapiens cholesteryl 26'-hydroxylase (CHP2H), mRNA [NM_009396]  |
| A.23.P335725   | -16.397 | -4.035 | 16.397 | INSR          | Homo sapiens insulin receptor (INSR), transcript variant 1, mRNA [NM_000206]  |
| A.23.P474632   | -16.389 | -4.033 | 16.389 | METS1         | Homo sapiens metastasis suppressor 1 (METS1), transcript variant 2, mRNA [NM_014751]  |
| A.33.P3982623  | -16.176 | -4.016 | 16.176 | SRD5A3        | Homo sapiens steroid 5 alpha-reductase 3 (SRD5A3), mRNA [NM_024592]   |
| A.22.P0015389  | -15.954 | -3.996 | 15.954 | INC-SHFP-1    | LINCpedia lincRNA (inc-SHFP-1), lincRNA [nc-SHFP-1:3]   |
| A.23.P434889   | -15.771 | -3.979 | 15.771 | STO28         | Homo sapiens STO2 calcium binding protein A8 (STO28), mRNA [NM_029264]  |
| A.33.P333884   | -15.597 | -3.963 | 15.597 | YS3G3         | Homo sapiens Y-set and immunoglobulin domain containing 3 (YS3G3), mRNA [NM_00103861]   |
| A.24.P178292   | -15.545 | -3.952 | 15.545 | PCX11         | Homo sapiens Purkinje cell protein 4 like (PCX11), mRNA [NM_001128260]  |
| A.24.P178292   | -15.545 | -3.952 | 15.545 | PCX11         | Homo sapiens Purkinje cell protein 4 like (PCX11), mRNA [NM_001128260]  |
| A.21.P0008253  | -14.925 | -3.900 | 14.925 | LOC101928371  | Homo sapiens uncharacterized LOC101928371 (LOC101928371), long non-coding RNA [NR_106861]   |
| A.33.P3271111  | -14.841 | -3.892 | 14.841 | NIN1          | Homo sapiens ninjurin 1 (NIN1), mRNA [NM_004146]  |
| A.22.P00008610 | -14.705 | -3.878 | 14.705 | STYPO         | Homo sapiens styriolipodin (STYPO), transcript, mRNA [NM_0007286]   |
| A.23.P344531   | -14.542 | -3.862 | 14.542 | TP53AIP1      | Homo sapiens tumor protein p53 regulated apoptosis inducing protein 1 (TP53AIP1), transcript variant 4, mRNA [NM_001251964]         |
| A.23.P04071    | -14.243 | -3.842 | 14.243 | TP53AIP1      | Homo sapiens tumor protein p53 regulated apoptosis inducing protein 1 (TP53AIP1), transcript variant 4, mRNA [NM_001251964]         |
| A.33.P3380892  | -14.038 | -3.811 | 14.038 | AKR1B15       | Homo sapiens adenosine 5'-phosphatase family 1, member B15 (AKR1B15), mRNA [NM_001080238]   |
| A.23.P376891   | -13.995 | -3.807 | 13.995 | GLYBL         | Homo sapiens glycylase beta like (GLYBL), transcript variant 1, mRNA [NM_208808]  |
| A.23.P48971    | -13.958 | -3.803 | 13.958 | IFIH4L        | Homo sapiens interferon-induced protein 44-like (IFIH4L), mRNA [NM_006820]  |
| A.33.P3262431  | -13.928 | -3.800 | 13.928 | KREMEN1       | Homo sapiens kringel containing transmembrane protein 1 (KREMEN1), transcript variant 2, mRNA [NM_020445]                           |
| A.24.P296598   | -13.660 | -3.772 | 13.660 | SLC43A2       | Homo sapiens solute carrier family 43 (amino acid system L transporter), member 2 (SLC43A2), transcript variant 2, mRNA [NM_192346] |
| A.23.P153571   | -13.551 | -3.758 | 13.551 | IGFL2         | Homo sapiens (IG-like family member 2) (IGFL2), transcript variant 1, mRNA [NM_001029115]   |
| A.24.P72082    | -13.483 | -3.754 | 13.483 | KMO           | Homo sapiens kynurenic acid 3-methoxykynurenase (kynurenic acid 3-hydroxylase) (KMO), mRNA [NM_008779]                              |
| A.33.P372658   | -13.245 | -3.753 | 13.245 | NSD1          | Homo sapiens nuclear receptor corepressor 1 (NSD1), transcript variant 1, mRNA [NM_001029271]                                       |
| A.24.P372658   | -13.245 | -3.727 | 13.245 | NSD1          | Homo sapiens nuclear receptor corepressor 1 (NSD1), transcript variant 1, mRNA [NM_001029271]                                       |
| A.24.P12941    | -13.240 | -3.727 | 13.240 | AKR1B10       | Homo sapiens adenosine 5'-phosphatase family 1, member B10 (aldose reductase) (AKR1B10), mRNA [NM_020293]                           |
| A.23.P007544   | -13.094 | -3.711 | 13.094 | PLXNA2        | Homo sapiens plasminogen activator-like domain containing 2 (PLXNA2), mRNA [NM_024179]  |
| A.22.P0000605  | -13.002 | -3.701 | 13.002 | LOC101928353  | Homo sapiens uncharacterized LOC101928353 (LOC101928353), long non-coding RNA [NR_129857]   |
| A.23.P144369   | -12.891 | -3.688 | 12.891 | NAP1L5        | Homo sapiens nucleosome assembly protein 1-like 5 (NAP1L5), mRNA [NM_153757]  |
| A.22.P0007915  | -12.762 | -3.674 | 12.762 | ZNF883        | Homo sapiens zinc finger protein 883 (ZNF883), mRNA [NM_00101338]   |
| A.24.P933068   | -12.559 | -3.651 | 12.559 | GFNMB         | Homo sapiens glycosylated transmembrane protein (GFNMB), complete cds. [BC011839]   |
| A.24.P162368   | -12.406 | -3.633 | 12.406 | TP53AIP1      | Homo sapiens tumor protein p53 regulated apoptosis inducing protein 1 (TP53AIP1), transcript variant 2, mRNA [NM_001198195]         |
| A.23.P121795   | -12.386 | -3.631 | 12.386 | SORBS2        | Homo sapiens sorbin and SH3 domain containing 2 (SORBS2), transcript variant 2, mRNA [NM_001069]                                    |
| A.23.P209978   | -12.287 | -3.617 | 12.287 | VSXN1         | Homo sapiens vsxn-like 1 (VSXN1), mRNA [NM_003385]  |
| A.21.P0007029  | -12.238 | -3.613 | 12.238 | FLJ27035      | Uncharacterized LOC98927 [Source:Ensembl;Accession:LOC98927] [ENST00000419400]  |
| A.21.P0001693  | -12.158 | -3.604 | 12.158 | PKD3          | Homo sapiens pyruvate dehydrogenase kinase, isozyme 3 (PKD3), transcript variant 1, mRNA [NM_001142386]                             |
| A.24.P411186   | -12.012 | -3.586 | 12.012 | BCL11A        | Homo sapiens B-cell CLL/lymphoma 11A (zinc finger protein) (BCL11A), transcript variant 1, mRNA [NM_020939]                         |
| A.24.P132353   | -11.937 | -3.577 | 11.937 | KITLG         | Homo sapiens KIT ligand (KITLG), transcript variant b, mRNA [NM_000899]   |
| A.33.P2923164  | -11.811 | -3.562 | 11.811 | CHGA          | Homo sapiens chromogranin A (parathyroid secretory protein 1) (CHGA), transcript variant 1, mRNA [NM_001275]                        |
| A.23.P2492     | -11.806 | -3.561 | 11.806 | C1S           | Homo sapiens complement component 1, s subcomponent (C1S), transcript variant 2, mRNA [NM_001734]                                   |

|               |         |        |        |      |              |   |
|---------------|---------|--------|--------|------|--------------|---|
| A_33_P0341469 | -11.793 | -3.559 | 11.793 | down | WNT5A        | Homo sapiens wingless-type MMTV integration site family member 5A (WNT5A), transcript variant 1, mRNA [NM_003392]   |
| A_23_P422132  | -11.750 | -3.955 | 11.750 | down | WDR63        | Homo sapiens WD repeat domain 63 (WDR63), transcript variant 1, mRNA [NM_145172]  |
| A_33_P0228702 | -11.692 | -3.542 | 11.692 | down | WFRKN1       | Homo sapiens WAP, (oligatin)/Azcal, immunoglobulin, kunitz and netrin domain containing 1 (WFRKN1), mRNA [NM_052284]  |
| A_21_P0005189 | -11.525 | -3.927 | 11.525 | down | LOC100607642 | Homo sapiens uncharacterized LOC100507642 (LOC100507642), transcript variant 1, long non-coding RNA [NR_108064]   |
| A_24_P036533  | -11.478 | -3.921 | 11.478 | down | DEINAG       | Homo sapiens cDNA FLJ20820, fig. clone KAT04876, [AK000827]   |
| A_23_P134426  | -11.320 | -3.501 | 11.320 | down | GNMB         | Homo sapiens glycosylated transmembrane rmb (GNMB), transcript variant 1, mRNA [NM_001035400]   |
| A_33_P034708  | -11.283 | -3.487 | 11.283 | down | CREB3L4      | Homo sapiens CREB3-like 4 (CREB3L4), transcript variant 1, mRNA [NM_138986]   |
| A_23_P145035  | -11.281 | -3.406 | 11.281 | down | EPHBE        | Homo sapiens EPH receptor B6 (EPHBE), transcript variant 1, mRNA [NM_004445]  |
| A_23_P23669   | -11.274 | -3.465 | 11.274 | down | PALMD        | Homo sapiens palmitolein (PALMD), mRNA [NM_017784]  |
| A_33_P028361  | -11.273 | -3.495 | 11.273 | down | IFT3         | Homo sapiens interferon-induced protein with tetrapeptide repeats 3 (IFT3), transcript variant 3, mRNA [NM_001289758]   |
| A_33_P132317  | -11.206 | -3.486 | 11.206 | down | GPR155       | Homo sapiens G protein-coupled receptor 155 (GPR155), transcript variant 1, mRNA [NM_001033045]   |
| A_33_P036820  | -11.084 | -3.470 | 11.084 | down | TMEH15       | Homo sapiens transmembrane protein 91 (TMEH15), transcript variant 5, mRNA [NM_001098824]   |
| A_21_P0012866 | -11.051 | -3.466 | 11.051 | down | LOC101829607 | Homo sapiens uncharacterized LOC101829607 (LOC101829607), long non-coding RNA [NR_1100339]  |
| A_23_P06481   | -10.933 | -3.451 | 10.933 | down | RTMR1L       | Homo sapiens reticulon 4 receptor-like 1 (RTMR1L), mRNA [NM_178568]   |
| A_24_P059285  | -10.923 | -3.449 | 10.923 | down | GJA1         | Homo sapiens gap junction protein alpha 1, 43kDa (GJA1), mRNA [NM_000165]   |
| A_21_P0014894 | -10.886 | -3.444 | 10.886 | down |              |   |
| A_23_P04988   | -10.821 | -3.436 | 10.821 | down | STGALNAC1    | Homo sapiens ST6 (alpha-N-acetyl-neuraminyl-2,3-beta-galactosyl-1,3-N-acetylglucosaminide alpha-2,6-sialyltransferase 1 (STGALNAC1), transcript variant 1, mRNA [NM_018414] |
| A_23_P103872  | -10.782 | -3.431 | 10.782 | down | INES         | Homo sapiens insect (INES), mRNA [NM_008617]  |
| A_23_P111583  | -10.779 | -3.430 | 10.779 | down | CD36         | Homo sapiens CD36 molecule (thrombospondin receptor) (CD36), transcript variant 2, mRNA [NM_001015471]  |
| A_23_P02148   | -10.757 | -3.427 | 10.757 | down | SPAT1A8      | Homo sapiens spermatogenesis associated 8 (SPAT1A8), transcript variant 1, mRNA [NM_019073]   |
| A_33_P026938  | -10.570 | -3.402 | 10.570 | down | SH2DC3       | Homo sapiens SH2 domain containing 3 (SH2DC3), transcript variant 1, mRNA [NM_176920]   |
| A_33_P09643   | -10.488 | -3.391 | 10.488 | down | APOBEC3A     | Homo sapiens apolipoprotein B mRNA editing enzyme, catalytic polypeptide like 3A (APOBEC3A), transcript variant 1, mRNA [NM_146598]   |
| A_33_P0299882 | -10.454 | -3.386 | 10.454 | down | UCOR8        | Homo sapiens ubiquinol-cytochrome c reductase binding protein (UCOR8), transcript variant 3, mRNA [NM_001254752]  |
| A_23_P139500  | -10.289 | -3.383 | 10.289 | down | BHLHE41      | Homo sapiens basic helix-loop-helix family member e41 (BHLHE41), mRNA [NM_030762]   |
| A_23_P040497  | -10.251 | -3.356 | 10.251 | down | GJBE2        | Homo sapiens gap junction protein, beta 2, 28kDa (GJBE2), mRNA [NM_004004]  |
| A_23_P020740  | -10.206 | -3.351 | 10.206 | down | IF4A         | Homo sapiens interferon-induced protein 44 (IF4A), mRNA [NM_006417]   |
| A_21_P0012780 | -10.202 | -3.351 | 10.202 | down |              |   |
| A_33_P141882  | -10.188 | -3.346 | 10.188 | down | EVPL1        | Homo sapiens envelopin-like (EVPL1), mRNA [NM_001145127]  |
| A_23_P156527  | -10.161 | -3.345 | 10.161 | down | TGFB1        | Homo sapiens transforming growth factor, beta-induced, 88kDa (TGFB1), mRNA [NM_000398]  |
| A_24_P059607  | -10.143 | -3.342 | 10.143 | down | SUSD4        | Homo sapiens sushi domain containing 4 (SUSD4), transcript variant 1, mRNA [NM_017989]  |
| A_24_P172481  | -10.124 | -3.340 | 10.124 | down | TRIM22       | Homo sapiens tripartite motif containing 22 (TRIM22), transcript variant 1, mRNA [NM_006074]  |
| A_23_P106024  | -10.112 | -3.338 | 10.112 | down | JAG2         | Homo sapiens jagged 2 (JAG2), transcript variant 1, mRNA [NM_002228]  |
| A_33_P026208  | -10.015 | -3.324 | 10.015 | down | STX19        | Homo sapiens syntaxin 19 (STX19), mRNA [NM_001001950]   |
| A_23_P042828  | -9.958  | -3.316 | 9.958  | down | PRRX2        | Homo sapiens paired-related homeobox 2 (PRRX2), mRNA [NM_016307]  |
| A_23_P127495  | -9.950  | -3.315 | 9.950  | down | BBOX1        | Homo sapiens brain-specific homeobox 1 (BBOX1), 2'-oxoglutarate dioxygenase (gamma-butyrolactone hydroxylase) [NM_001003666]  |
| A_23_P020205  | -9.947  | -3.314 | 9.947  | down | STOM1        | Homo sapiens stomatin 1 (STOM1), transcript variant 2, mRNA [NM_008678]   |
| A_23_P030320  | -9.947  | -3.304 | 9.947  | down | SSPN         | Homo sapiens sarcosin (SSPN), transcript variant 1, mRNA [NM_005828]  |
| A_21_P0008546 | -9.877  | -3.304 | 9.877  | down | LINC01550    | long intergenic non-protein coding RNA 1550 [Source:HGNC Symbol;Acc:NC01111]  |
| A_23_P044436  | -9.873  | -3.303 | 9.873  | down | GKNI         | Homo sapiens gastrin-like 1 (GKNI), mRNA [NM_018617]  |
| A_23_P160761  | -9.871  | -3.303 | 9.871  | down | P1PRP2       | Homo sapiens protein tyrosine phosphatase, receptor-type 2, polypeptide 1 (P1PRP2), transcript variant 1, mRNA [NM_002851]  |
| A_23_P151851  | -9.880  | -3.297 | 9.880  | down | DUOX2        | Homo sapiens dual oxidase 2 (DUOX2), mRNA [NM_014080]   |
| A_24_P215475  | -9.827  | -3.297 | 9.827  | down | ZNF10        | Homo sapiens zinc finger protein 10 (ZNF10), mRNA [NM_015394]   |
| A_22_P0002126 | -9.714  | -3.280 | 9.714  | down | DGDUK-AS1    | Homo sapiens DGDUK antisense RNA 1 (DGDUK-AS1), transcript variant 2, long non-coding RNA [NR_104030]   |
| A_33_P0810888 | -9.594  | -3.282 | 9.594  | down | PPARGC1B     | Homo sapiens peroxisome proliferator-activated receptor (gamma, coactivator 1) beta (PPARGC1B), transcript variant 1, mRNA [NM_132483]                                      |
| A_21_P0001892 | -9.587  | -3.258 | 9.587  | down | LOC101892383 | PREDICTED: Homo sapiens uncharacterized LOC101892383 (LOC101892383), ncRNA [X:244609]   |
| A_23_P030172  | -9.587  | -3.252 | 9.587  | down | CBRD1        | Homo sapiens chromosome 9 gene reading frame 3 (CBRD1), transcript variant 2, mRNA [NM_032823]  |
| A_24_P026395  | -9.466  | -3.247 | 9.466  | down | STC10        | Homo sapiens myosin 2 (C2) (STC10), mRNA [NM_001007910]   |
| A_33_P0265404 | -9.465  | -3.246 | 9.465  | down | STCHD4       | Homo sapiens starch domain containing 4 (STCHD4), transcript variant 1, mRNA [NM_00103732]  |
| A_23_P18684   | -9.438  | -3.238 | 9.438  | down | GLGN         | Homo sapiens salivary (GLGN), transcript variant 1, mRNA [NM_004382]  |
| A_23_P102391  | -9.385  | -3.230 | 9.385  | down | SLC6A1       | Homo sapiens solute carrier family 6 (non-regulated transporter), member 1 (SLC6A1), mRNA [NM_014685]   |
| A_33_P022965  | -9.359  | -3.226 | 9.359  | down | TDRD6        | Homo sapiens tudor domain containing 6 (TDRD6), transcript variant 1, mRNA [NM_00108770]  |
| A_33_P0319866 | -9.356  | -3.226 | 9.356  | down | METT10       | Homo sapiens methyltransferase like 20 (METTL20), transcript variant 1, mRNA [NM_178922]  |
| A_33_P0254460 | -9.308  | -3.218 | 9.308  | down | DLK2         | Homo sapiens delta-like 2 homolog (Drosophila) (DLK2), transcript variant 2, mRNA [NM_206539]   |
| A_22_P0000618 | -9.302  | -3.218 | 9.302  | down | AADAAC       | Homo sapiens cDNA FLJ33728, fig. clone BRAH120183ZT, [AK091057]   |
| A_23_P09570   | -9.295  | -3.216 | 9.295  | down | AAADAC       | Homo sapiens arylacetamide deacetylase (AADAC), mRNA [NM_001086]  |
| A_23_P167509  | -9.279  | -3.214 | 9.279  | down | CYFP2        | Homo sapiens cytoplasmic FMR1 interacting protein 2 (CYFP2), transcript variant 3, mRNA [NM_014376]   |
| A_22_P0001875 | -9.271  | -3.213 | 9.271  | down | LOC101927164 | Homo sapiens uncharacterized LOC101927164 (LOC101927164), long non-coding RNA [NR_110668]   |
| A_33_P0219500 | -9.269  | -3.212 | 9.269  | down | CXCR2        | Homo sapiens chemokine (C-X-C motif) receptor 2 (CXCR2), transcript variant 1, mRNA [NM_0010557]  |
| A_33_P039383  | -9.261  | -3.211 | 9.261  | down | TMEH23       | Homo sapiens transmembrane protein 23 (TMEH23), transcript variant 1, mRNA [NM_001033045]   |
| A_24_P047153  | -9.230  | -3.208 | 9.230  | down | TMEH37       | Homo sapiens zinc finger protein 37 (ZNF37), mRNA [NM_033180]   |
| A_33_P220258  | -9.185  | -3.199 | 9.185  | down | TAF9B        | Homo sapiens Other syndrome 10 (autosomal recessive) (USHG), transcript variant 1, mRNA [NM_173471]   |
| A_33_P040711  | -9.111  | -3.188 | 9.111  | down | USHG         | Homo sapiens galactose oxidase (aldose 1-epimerase) (GALM), mRNA [NM_138801]  |
| A_21_P0001466 | -9.108  | -3.187 | 9.108  | down | GALM         | Homo sapiens galactose oxidase (aldose 1-epimerase) (GALM), mRNA [NM_138801]  |
| A_21_P0001905 | -9.094  | -3.186 | 9.094  | down | INC-MTOR-1   | LANGEDIACINRA (inc-MTOR-1), ncRNA [loc-MTOR-1]  |
| A_33_P0254665 | -9.029  | -3.158 | 9.029  | down |              |   |
| A_21_P0008949 | -8.880  | -3.151 | 8.880  | down |              |   |
| A_23_P180892  | -8.880  | -3.150 | 8.880  | down | CYP7B1       | Homo sapiens cytochrome P450, family 7, subfamily B, polypeptide 1 (CYP7B1), mRNA [NM_004820]   |

|                |      |       |        |               |  |
|----------------|------|-------|--------|---------------|--|
| A_32_P171061   | down | 8.878 | -3.150 | ASCL2         | Homo sapiens achaete-scute family DHLH transcription factor 2 (ASCL2). mRNA [NM_005170]  |
| A_23_P329261   | down | 8.830 | -3.142 | KCNJ2         | Homo sapiens potassium channel, inwardly rectifying subfamily 4, member 2 (KCNJ2). mRNA [NM_000891]                                  |
| A_21_P0001767  | down | 8.822 | -3.141 | FUCYL1        | Homo sapiens fucosyltransferase cytidine deaminase N-terminal like (FUCYL1). long non-coding RNA [RF_034096]                         |
| A_33_P3240332  | down | 8.809 | -3.139 | RGL1          | Homo sapiens rat guanine nucleotide dissociation stimulator-like 1 (RGL1). transcript variant 1. mRNA [NM_015149]                    |
| A_23_P421164   | down | 8.775 | -3.133 | SULF1         | Homo sapiens sulfatase 1 (SULF1). transcript variant 3. mRNA [NM_015170]   |
| A_23_P120302   | down | 8.685 | -3.115 | SP110         | Homo sapiens SP110 nuclear body protein (SP110). transcript variant 5. mRNA [NM_004510]  |
| A_24_P247403   | down | 8.649 | -3.113 | AP0D3         | Homo sapiens arrestin domain containing 3 (AP0D3). mRNA [NM_020801]  |
| A_32_P329463   | down | 8.642 | -3.111 | SYT6P4        | Homo sapiens synaptotagmin binding protein 4 SYT6P-4. mRNA [NM_178599]   |
| A_23_P96164    | down | 8.623 | -3.108 | NDUFA4L2      | Homo sapiens NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 4 like 2 (NDUFA4L2). mRNA [NM_120143]                               |
| A_32_P116660   | down | 8.602 | -3.105 | BRM43         | Homo sapiens RNA binding motif protein 43 (BRM43). mRNA [NM_188567]  |
| A_23_P129064   | down | 8.570 | -3.099 | GATM          | Homo sapiens glycine amidotransferase (L-glycine glycine amidotransferase) (GATM). mRNA [NM_001482]                                  |
| A_33_P226331   | down | 8.568 | -3.099 | GFAP70        | Homo sapiens cilia and flagella associated protein 70 (GFAP70). mRNA [NM_145170]   |
| A_33_P232785   | down | 8.560 | -3.098 | NEFL          | Homo sapiens neurofilament, light polypeptide (NEFL). mRNA [NM_006158]   |
| A_33_P2318117  | down | 8.550 | -3.096 | EPHA7         | Homo sapiens ephrocyte 7 (EPHA7). family 3, subfamily A, polypeptide 7 (CY2A7). mRNA [NM_000765]                                     |
| A_33_P3238053  | down | 8.549 | -3.096 | ANKK1         | Homo sapiens ankyrin repeat and kinase domain containing 1 (ANKK1). mRNA [NM_178610]   |
| A_23_P308361   | down | 8.509 | -3.089 | HEM1T1        | Homo sapiens HEN1 methyltransferase homolog 1 (Arabidopsis) (HEM1T1). transcript variant 1. mRNA [NM_144584]                         |
| A_23_P115916   | down | 8.503 | -3.088 | WNT6          | Homo sapiens wingless-type MMTV integration site family, member 6 (WNT6). mRNA [NM_006522]   |
| A_23_P404965   | down | 8.379 | -3.067 | GNL1          | Homo sapiens guanine nucleotide binding protein-like 1 (GNL1). mRNA [NM_005275]  |
| A_23_P319353   | down | 8.349 | -3.062 | RIMS3         | Homo sapiens regulating synaptic membrane exocytosis 3 (RIMS3). mRNA [NM_014747]   |
| A_19_P00330308 | down | 8.317 | -3.056 | LINC00964     | long intergenic non-protein coding RNA 164 [Source:HGNC Symbol;Acc:HGNC:27266]   |
| A_23_P36893    | down | 8.288 | -3.047 | ZC3H12C       | long intergenic non-protein coding RNA 338 [Source:CCDS;CCDS:1031.1] [Source:Ensembl;ENST:00000262922]                               |
| A_22_P0018123  | down | 8.248 | -3.044 | inc-ZNF484-1  | Homo sapiens zinc finger protein 484, antisense 1 (ZNF484-AS1). mRNA [NM_183380] contains Au   |
| A_22_P00006812 | down | 8.220 | -3.039 | LOC101928100  | long intergenic non-protein coding RNA 193, antisense 1 (LINC0193-AS1). mRNA [NR_14873248]   |
| A_23_P361015   | down | 8.191 | -3.034 | MAOB          | Homo sapiens monoamine oxidase B (MAOB). mRNA [NM_000898]  |
| A_23_P36834    | down | 8.149 | -3.027 | EPHA2         | Homo sapiens ephrocyte 2, cytoplasmic (EPHA2). transcript variant 1. mRNA [NM_001973]  |
| A_22_P00017242 | down | 8.149 | -3.027 | inc-USP47-1   | LINCpediculin RNA (inc-USP47-1). lincRNA [inc-USP47-1]   |
| A_23_P145514   | down | 8.116 | -3.021 | IL20RA        | Homo sapiens interleukin 20 receptor, alpha (IL20RA). transcript variant 1. mRNA [NM_014432]   |
| A_32_P186731   | down | 8.106 | -3.019 | ISMT          | Homo sapiens islet 1, antiproliferation inhibitor (ISMT). mRNA [NM_008228]   |
| A_32_P181143   | down | 8.055 | -3.010 | GEPR5-AS1     | Homo sapiens GEPR5 antisense RNA 1 (GEPR5-AS1). transcript variant 2. long non-coding RNA [RF_024482]                                |
| A_33_P3289466  | down | 8.032 | -3.006 | LOC91450      | Homo sapiens uncharacterized LOC91450 (LOC91450). long non-coding RNA [NR_026888]  |
| A_23_P3241464  | down | 8.022 | -3.004 | ZNF558        | Homo sapiens zinc finger protein 558 (ZNF558). mRNA [NM_033160]  |
| A_23_P133991   | down | 8.014 | -3.003 | RRAGD         | Homo sapiens Ras-related GTP binding D (RRAGD). mRNA [NM_027244]   |
| A_24_P273756   | down | 8.004 | -3.001 | TP83          | Homo sapiens tumor protein p83 (TP83). transcript variant 1. mRNA [NM_003222]  |
| A_24_P430450   | down | 7.999 | -3.000 | DHXB9         | Homo sapiens deoxynucleoside transferase 9 (DHXB9). mRNA [NM_00102702]   |
| A_33_P3693774  | down | 7.986 | -2.997 | PKnox1        | Homo sapiens phenoloxidase-3 kinase, regulatory subunit 3 (Pknor3). transcript variant 5. mRNA [NM_0132429]                          |
| A_23_P127004   | down | 7.985 | -2.997 | LRR6C         | Homo sapiens leucine-rich repeat containing 6 (LRR6C). transcript variant 1. mRNA [NM_012472]  |
| A_24_P444588   | down | 7.984 | -2.997 | ZNF682        | Homo sapiens zinc finger protein 682 (ZNF682). transcript variant 1. mRNA [NM_033198]  |
| A_23_P213859   | down | 7.981 | -2.997 | PPARGC1B      | Homo sapiens peroxisome proliferator-activated receptor gamma, coactivator 1 beta (PPARGC1B). transcript variant 1. mRNA [NM_133263] |
| A_33_P3392405  | down | 7.980 | -2.996 | C1orf69       | Homo sapiens chromosome 10, open reading frame 99 (C1orf69). mRNA [NM_207373]  |
| A_33_P3239242  | down | 7.950 | -2.991 | SPFAT6        | Homo sapiens spermatogenesis associated 6 (SPFAT6). transcript variant 1. mRNA [NM_019073]   |
| A_33_P3371960  | down | 7.933 | -2.988 | THEM5         | gap junction protein, alpha 1, 49kDa pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:4275]   |
| A_33_P3270826  | down | 7.925 | -2.986 | THEM5         | Homo sapiens thiaminase superfamily member 5 (THEM5). mRNA [NM_182578]   |
| A_23_P94840    | down | 7.885 | -2.976 | DYNLRB2       | Homo sapiens dyx11c1, rod-like domain containing 2 (DYNLRB2). mRNA [NM_130897]   |
| A_23_P124190   | down | 7.846 | -2.972 | TRIM34        | Homo sapiens tripartite motif containing 34 (TRIM34). transcript variant 3. mRNA [NM_130390]   |
| A_23_P107432   | down | 7.835 | -2.970 | FLJ35934      | Homo sapiens FLJ35934 (FLJ35934). long non-coding RNA [NR_04343]   |
| A_23_P123088   | down | 7.795 | -2.962 | PSMG3-AS1     | Homo sapiens PSMG3 antisense RNA 1 (head to head) (PSMG3-AS1). transcript variant 1, long non-coding RNA [RF_027329]                 |
| A_23_P412517   | down | 7.772 | -2.958 | ANKRD29       | Homo sapiens ankyrin repeat domain 29 (ANKRD29). mRNA [NM_173605]  |
| A_23_P420293   | down | 7.771 | -2.958 | C1orf45       | Homo sapiens chromosome 11 open reading frame 45 (C1orf45). transcript variant 2. mRNA [NM_149313]                                   |
| A_23_P120594   | down | 7.754 | -2.955 | ACSS1         | Homo sapiens acyl-CoA synthetase short-chain family member 1 (ACSS1). transcript variant 1. mRNA [NM_020501]                         |
| A_33_P3353200  | down | 7.735 | -2.951 | C1orf67       | Homo sapiens chromosome 17 open reading frame 97 (C1orf67). mRNA [NM_001013832]  |
| A_23_P381507   | down | 7.708 | -2.949 | FAT2          | Homo sapiens FAT apical cadherin 2 (FAT2). transcript variant 1. mRNA [NM_001447]  |
| A_33_P3250987  | down | 7.670 | -2.949 | SYCE3         | Homo sapiens synaptonemal complex central element protein 3 (SYCE3). mRNA [NM_00123225]  |
| A_24_P115007   | down | 7.663 | -2.938 | ALDH8A1       | Homo sapiens aldehyde dehydrogenase 5 family, member A1 (ALDH8A1). transcript variant 1. mRNA [NM_170740]                            |
| A_32_P125603   | down | 7.655 | -2.936 | REBZ6-AS1     | Homo sapiens REBZ6 antisense RNA 1 (REBZ6-AS1). long non-coding RNA [NR_038991]  |
| A_32_P100788   | down | 7.651 | -2.936 | SNAMD3        | Homo sapiens sterile alpha motif domain containing 13 (SAMD13). transcript variant 1. mRNA [NM_001010971]                            |
| A_23_P144071   | down | 7.643 | -2.934 | COL7A1        | Homo sapiens collagen, type VII, alpha 1 (COL7A1). mRNA [NM_000894]  |
| A_23_P419213   | down | 7.609 | -2.928 | KIAA1407      | Homo sapiens KIAA1407 (KIAA1407). mRNA [NM_020817]   |
| A_23_P191314   | down | 7.584 | -2.923 | GFRR8         | Homo sapiens G protein-coupled receptor 98 (GFRR8). transcript variant 1. mRNA [NM_002191]   |
| A_23_P146146   | down | 7.543 | -2.915 | ATP8V0D2      | Homo sapiens ATPase, H <sup>+</sup> transporting, lysosomal 380Da, V0 subunit 02 (ATP8V0D2). mRNA [NM_192565]                        |
| A_24_P301343   | down | 7.485 | -2.906 | GFRR8         | Homo sapiens G protein-coupled receptor 98 (GFRR8). transcript variant 2. mRNA [NM_004493]   |
| A_33_P321443   | down | 7.446 | -2.896 | CASC2         | Homo sapiens caspase 2 (CASC2) candidate 2 (non-protein coding) (CASC2). transcript variant 1. long non-coding RNA [RF_026938]       |
| A_23_P102950   | down | 7.443 | -2.896 | RSPH1         | Homo sapiens radial spoke head 1 homolog (Chlamydomonas) (RSPH1). transcript variant 1. mRNA [NM_008060]                             |
| A_23_P308057   | down | 7.387 | -2.885 | APOL4         | Homo sapiens apolipoprotein 4 (APOL4). transcript variant 4. mRNA [NM_030643]  |
| A_33_P3030212  | down | 7.358 | -2.879 | CDC42A        | Homo sapiens coiled-coil domain containing 74A (CDC42A). transcript variant 2. mRNA [NM_001259304]                                   |
| A_21_P0013074  | down | 7.355 | -2.879 | XLOC12.012931 | BROAD Institute lincRNA (XLOC12.012931). lincRNA [TCONS12.0024662]   |

|                |        |        |       |                 |  |
|----------------|--------|--------|-------|-----------------|--|
| A.24.P3240747  | -7.349 | -2.878 | 7.349 | LOC100100899    | Homo sapiens uncharacterized LOC100100899 (LOC100100899), long non-coding RNA [NR_039688]                                    |
| A.24.P494815   | -7.337 | -2.875 | 7.337 | PNPLA4          | Homo sapiens patatin-like phospholipase domain containing 4 (PNPLA4), transcript variant 1, mRNA [NM_004650]                 |
| A.21.P0010814  | -7.291 | -2.866 | 7.291 | XLOC12.001543   | BROAD Institute lincRNA XLOC12.001543, lincRNA [TCOIS12.0002946]   |
| A.23.P42953    | -7.285 | -2.865 | 7.285 | PBX1            | Homo sapiens pre-B-cell leukemia homeobox 1 (PBX1), transcript variant 1, mRNA [NM_002585]                                   |
| A.23.P321950   | -7.282 | -2.860 | 7.282 | 93a9f9          | Homo sapiens chromosome 9 open reading frame 9 (C9orf9), mRNA [NM_018960]  |
| A.23.P329594   | -7.252 | -2.858 | 7.252 | GAREML          | Homo sapiens GBE2 associated regulator of MAPK1-like (GAREML), transcript variant 2, mRNA [NM_00191033]                      |
| A.21.P0010280  | -7.226 | -2.853 | 7.226 | linc-PSMG1-5    | LINCPSMG1-5, lincRNA [linc-PSMG1-5.1]  |
| A.21.P0005807  | -7.209 | -2.850 | 7.209 | linc-PSMG1-1    | LINCPSMG1-1, lincRNA [linc-PSMG1-1.1]  |
| A.21.P0005807  | -7.209 | -2.850 | 7.209 | linc-PSMG1-2    | LINCPSMG1-2, lincRNA [linc-PSMG1-2.1]  |
| A.21.P131161   | -7.205 | -2.849 | 7.205 | CPZ28           | Homo sapiens cytochrome P450 family 21 (CYP21), mRNA [NM_036066]   |
| A.32.P431206   | -7.192 | -2.846 | 7.192 | CG2             | Homo sapiens cytochrome C-C motif, class 2 (CG2), mRNA [NM_005708]   |
| A.23.P48431    | -7.186 | -2.845 | 7.186 | SCGL2           | Homo sapiens chemokine (C-C motif) class 2 (SCGL2), mRNA [NM_002882]   |
| A.24.P456723   | -7.184 | -2.845 | 7.184 | LINC01125       | Homo sapiens long intergenic non-protein coding RNA 1125 (LINC01125), long non-coding RNA [NR_039386]                        |
| A.23.P320768   | -7.172 | -2.842 | 7.172 | RHD12           | Homo sapiens retinol dehydrogenase 12 (all-trans/9-cis/11-cis) (RHD12), mRNA [NM_152443]                                     |
| A.33.P3244122  | -7.161 | -2.840 | 7.161 | HAAC            | Homo sapiens 3-hydroxyanthranilate 3,4-dioxygenase (HAAC), mRNA [NM_012205]  |
| A.23.P405748   | -7.151 | -2.838 | 7.151 | BCL11B          | Homo sapiens B-cell CLL/lymphoma 11B (zinc finger protein) (BCL11B), transcript variant 1, mRNA [NM_138576]                  |
| A.23.P71855    | -7.103 | -2.828 | 7.103 | GS              | Homo sapiens complement component 5 (GS), mRNA [NM_001735]   |
| A.33.P333622   | -7.098 | -2.827 | 7.098 | ZBEDS-AS1       | Homo sapiens ZBEDS antisense RNA 1 (ZBEDS-AS1), long non-coding RNA [NR_041137]  |
| A.33.P3414912  | -7.095 | -2.827 | 7.095 | NPL             | Homo sapiens N-acylneuraminase pyruvate lyase (dihydrodipicolinate synthase) (NPL), transcript variant 3, mRNA [NM_00120008] |
| A.24.P266335   | -7.051 | -2.818 | 7.051 | ARL3            | Homo sapiens ADP-ribosylation factor-like 3 (ARL3), mRNA [NM_004511]   |
| A.33.P337235   | -7.044 | -2.816 | 7.044 | POGF1           | Homo sapiens post-GPI attachment to proteins 1 (POGF1), mRNA [NM_004989]   |
| A.21.P0006904  | -7.038 | -2.815 | 7.038 | LOC101927879    | Homo sapiens long intergenic non-protein coding RNA 101927879 (LOC101927879), mRNA [XLOC10422]                               |
| A.33.P431206   | -6.995 | -2.806 | 6.995 | C10orf98-AS1    | Homo sapiens C10orf98 antisense RNA 1 (C10orf98-AS1), transcript variant 1, mRNA [NM_00104442]                               |
| A.21.P0004059  | -6.983 | -2.800 | 6.983 | LOC101928353    | Homo sapiens uncharacterized LOC101928353 (LOC101928353), long non-coding RNA [NR_129637]                                    |
| A.23.P47616    | -6.964 | -2.800 | 6.964 | FOLH1           | Homo sapiens folate hydrolase (prelactate-specific membrane antigen) 1 (FOLH1), transcript variant 1, mRNA [NM_004476]       |
| A.33.P3223735  | -6.948 | -2.797 | 6.948 | THBS2           | Homo sapiens thrombospondin 2 (THBS2), mRNA [NM_003247]  |
| A.33.P3398181  | -6.921 | -2.791 | 6.921 | LOC100179009    | Homo sapiens sRNA FLJ29012, fls, clone RCT02392, JAK10422  |
| A.23.P143247   | -6.902 | -2.787 | 6.902 | TSHZ2           | Homo sapiens teshart, zinc finger homeobox 2 (TSHZ2), transcript variant 1, mRNA [NM_172485]                                 |
| A.23.P189038   | -6.902 | -2.787 | 6.902 | SNAZ            | Homo sapiens small family zinc finger 2 (SNAZ), mRNA [NM_003088]   |
| A.33.P3230478  | -6.900 | -2.787 | 6.900 | C1S             | Homo sapiens complement component 1, s subcomponent (C1S), transcript variant 1, mRNA [NM_201442]                            |
| A.33.P3270311  | -6.884 | -2.783 | 6.884 | HECW2           | Homo sapiens HECT, C2 and WW domain containing E3 ubiquitin protein ligase 2 (HECW2), mRNA [NM_020760]                       |
| A.22.P0002587  | -6.877 | -2.782 | 6.877 | LOC102760       | Homo sapiens mRNA, cDNA DNF2598F1022 (from clone DNF2598F1022), [AL110201]   |
| A.21.P0010687  | -6.875 | -2.781 | 6.875 | down            | down   |
| A.22.P0000924  | -6.849 | -2.776 | 6.849 | TAF1A-AS1       | Homo sapiens TAF1A antisense RNA 1 (TAF1A-AS1), transcript variant 1, long non-coding RNA [NR_100145]                        |
| A.33.P3393821  | -6.841 | -2.774 | 6.841 | C1R             | Homo sapiens complement component 1, s subcomponent (C1R), mRNA [NM_001730]  |
| A.33.P333334   | -6.841 | -2.774 | 6.841 | PRODH           | Homo sapiens proline dehydrogenase (oxidase) 1 (PRODH), transcript variant 1, mRNA [NM_016335]                               |
| A.33.P3255346  | -6.826 | -2.771 | 6.826 | XAF1            | Homo sapiens XAF associated factor 1 (XAF1), transcript variant 1, mRNA [NM_017823]  |
| A.33.P3283460  | -6.826 | -2.771 | 6.826 | CTSG            | Homo sapiens cathepsin G (CTSG), transcript variant 2, mRNA [NM_148170]  |
| A.19.P00316824 | -6.823 | -2.770 | 6.823 | LINC01132       | Homo sapiens long intergenic non-protein coding RNA 1132 (LINC01132), long non-coding RNA [NR_038956]                        |
| A.23.P107744   | -6.815 | -2.769 | 6.815 | SIPRS           | Homo sapiens sphingosine-1-phosphate receptor 5 (SIPRS), transcript variant 1, mRNA [NM_030760]                              |
| A.24.P14624    | -6.798 | -2.765 | 6.798 | OLRI            | Homo sapiens oxidized low density lipoprotein (lectin-like) receptor 1 (OLRI), transcript variant 1, mRNA [NM_002543]        |
| A.23.P113471   | -6.780 | -2.761 | 6.780 | FAAH2           | Homo sapiens fatty acid amide hydrolase 2 (FAAH2), mRNA [NM_174912]  |
| A.33.P340384   | -6.774 | -2.760 | 6.774 | MOMD2           | Homo sapiens minichromosome maintenance domain containing 2 (MOMD2), transcript variant 1, mRNA [NM_173518]                  |
| A.32.P117170   | -6.731 | -2.751 | 6.731 | NAPPELD         | Homo sapiens N-acylphosphatidylethanolamine phospholipase D (NAPPELD), transcript variant 1, mRNA [NM_00122838]              |
| A.23.P350503   | -6.729 | -2.750 | 6.729 | TLR5            | Homo sapiens toll-like receptor 5 (TLR5), mRNA [NM_005268]   |
| A.33.P341080   | -6.722 | -2.749 | 6.722 | ADAL            | Homo sapiens adenosine deaminase-like (ADAL), transcript variant 2, mRNA [NM_00102869]                                       |
| A.24.P464268   | -6.698 | -2.744 | 6.698 | SYCE3           | Homo sapiens urocoitin 2 (UC2), mRNA [NM_033199]   |
| A.33.P341315   | -6.673 | -2.738 | 6.673 | linc-REP1-1     | Homo sapiens long intergenic non-protein coding RNA 1 (linc-REP1-1), transcript variant 1, mRNA [NM_00122293]                |
| A.21.P00032113 | -6.671 | -2.738 | 6.671 | linc-REP1-13    | LINCREP1-13, lincRNA [linc-REP1-13.1-13.1-1]   |
| A.23.P3007122  | -6.665 | -2.737 | 6.665 | ZBEDS-AS1       | Homo sapiens ZBEDS antisense RNA 1 (ZBEDS-AS1), long non-coding RNA [NR_041137]  |
| A.23.P3007079  | -6.658 | -2.735 | 6.658 | NGKAP5          | Homo sapiens NGK-associated protein 5 (NGKAP5), transcript variant 1, mRNA [NM_207983]                                       |
| A.33.P3393801  | -6.654 | -2.734 | 6.654 | PDZK1P1         | Homo sapiens PDZK1 interacting protein 1 (PDZK1P1), mRNA [NM_005764]   |
| A.32.P46214    | -6.649 | -2.730 | 6.649 | SLC8A9          | Homo sapiens solute carrier family 8, subfamily A (NHE9), cation proton antiporter 9, member 9 (SLC8A9), mRNA [NM_172833]    |
| A.23.P151405   | -6.633 | -2.723 | 6.633 | CKAP2           | Homo sapiens cytoskeleton associated protein 2 (CKAP2), transcript variant 1, mRNA [NM_018204]                               |
| A.23.P133343   | -6.628 | -2.723 | 6.628 | KLHL3           | Homo sapiens ketch-like family member 3 (KLHL3), transcript variant 1, mRNA [NM_017415]                                      |
| A.23.P47988    | -6.620 | -2.727 | 6.620 | IFNGR1          | Homo sapiens interferon gamma receptor 1 (IFNGR1), mRNA [NM_000416]  |
| A.21.P0013498  | -6.619 | -2.727 | 6.619 | ELL3            | Homo sapiens elongation factor RNA polymerase II-like 3 (ELL3), mRNA [NM_025165]   |
| A.22.P0019485  | -6.618 | -2.726 | 6.618 | linc-C1orf108-1 | BROAD Institute lincRNA XLOC12.014289, lincRNA [TCOIS12.0027895]   |
| A.23.P419322   | -6.609 | -2.724 | 6.609 | ZNF558          | Homo sapiens zinc finger protein 558 (ZNF558), mRNA [NM_033160]  |
| A.33.P3249746  | -6.603 | -2.723 | 6.603 | CYP3A5          | Homo sapiens cytochrome P450, family 3, subfamily A, polypeptide 5 (CYP3A5), transcript variant 2, mRNA [NM_00190454]        |
| A.33.P330488   | -6.596 | -2.722 | 6.596 | ALDH1A1         | Homo sapiens aldehyde dehydrogenase 7 family, member A1 (ALDH1A1), transcript variant 1, mRNA [NM_001182]                    |
| A.22.P00003801 | -6.595 | -2.719 | 6.595 | linc-CEP192-1   | LINCCEP192-1, lincRNA [linc-CEP192-1.1]  |
| A.23.P333640   | -6.588 | -2.713 | 6.588 | PABLN           | Homo sapiens pablin, avastin-like sulfated glycoprotein (PABLN), mRNA [NM_173482]  |
| A.24.P301230   | -6.553 | -2.712 | 6.553 | CYTR1           | Homo sapiens cysteine/tyrosine-rich 1 (CYTR1), mRNA [NM_052954]  |
| A.23.P24332    | -6.556 | -2.708 | 6.556 | MUC15           | Homo sapiens mucin 15, cell surface associated (MUC15), transcript variant 2, mRNA [NM_148650]                               |



|                |        |        |       |      |              |   |
|----------------|--------|--------|-------|------|--------------|---|
| A.33.P3206240  | -6.015 | -2.589 | 6.015 | down | CNTLN        | Homo sapiens centrin, centrosomal protein (CNTLN), transcript variant 1, mRNA [NM_017738]   |
| A.21.P0000641  | -5.888 | -2.582 | 5.888 | down | LINC00959    | Homo sapiens long intergenic non-protein coding RNA 959 [LINC00959], long non-coding RNA [NR_034125]  |
| A.23.P3079736  | -5.978 | -2.580 | 5.978 | down | MAF          | Homo sapiens v-maf avian musculoaponeurotic fibrosarcoma oncogene homolog (MAF), transcript variant 2, mRNA [NM_001031804]                                    |
| A.23.P3219558  | -5.956 | -2.574 | 5.956 | down | GP1BB        | Homo sapiens glycoprotein Ib (alpha), beta polypeptide (GP1BB), mRNA [NM_000407]  |
| A.32.P104746   | -5.838 | -2.570 | 5.838 | down | ZFYVE28      | Homo sapiens zinc finger, FYVE domain containing 28 (ZFYVE28), transcript variant 2, mRNA [NM_028712]   |
| A.23.P43810    | -5.828 | -2.568 | 5.828 | down | LTP1         | Homo sapiens latent transforming growth factor beta binding protein 1 (LTP1), transcript variant 1, mRNA [NM_200829]  |
| A.23.P122852   | -5.823 | -2.566 | 5.823 | down | SMARCD3      | Homo sapiens SWI6/SMARCD3, matrix-associated, actin-dependent regulator of chromatin, subfamily 4, member 3 (SMARCD3), transcript variant 2, mRNA [NM_009308] |
| A.23.P11980    | -5.821 | -2.566 | 5.821 | down | CFAP27       | Homo sapiens site and fibroblast associated protein 27 (CFAP27), transcript variant 5, mRNA [NM_001198831]  |
| A.23.P31945    | -5.919 | -2.565 | 5.919 | down | FLK37        | Homo sapiens interleukin 33 (IL33), transcript variant 1, mRNA [NM_033436]  |
| A.23.P381102   | -5.903 | -2.561 | 5.903 | down | CCDC74B      | Homo sapiens coiled-coil domain containing 74B (CCDC74B), transcript variant 1, mRNA [NM_207310]  |
| A.22.P00017022 | -5.901 | -2.561 | 5.901 | down | SCARNA14     | Homo sapiens sRNA clone IMAGE481975, [BC028287]   |
| A.21.P0000483  | -5.873 | -2.554 | 5.873 | down | LINC00984    | Homo sapiens small GTPase-specific RNA 14 (SCARNA14), guide RNA [NR_024388]   |
| A.22.P00018162 | -5.865 | -2.552 | 5.865 | down | RAE28        | long intergenic non-protein coding RNA 984 [Source:HGNC Symbol;Acc:HGNC:21226] [ENST00000269090]  |
| A.33.P3209229  | -5.863 | -2.552 | 5.863 | down | MAFA         | Homo sapiens RAE28, member RAS oncogene family (RAE28), mRNA [NM_014383]  |
| A.24.P12719    | -5.852 | -2.549 | 5.852 | down | MAFA         | Homo sapiens v-maf avian musculoaponeurotic fibrosarcoma oncogene homolog A (MAFA), mRNA [NM_201598]  |
| A.23.P314250   | -5.849 | -2.548 | 5.849 | down | FAM79A       | Homo sapiens family with sequence similarity 79, member A (FAM79A), mRNA [NM_033937]  |
| A.21.P0032704  | -5.846 | -2.547 | 5.846 | down | linc-FRG1-5  | LINC02161, linc-FRG1-5, lincRNA, linc-FRG1-33   |
| A.23.P31923    | -5.844 | -2.547 | 5.844 | down | GUN4B        | Homo sapiens guanylate cyclase activator 1B (GAC1B), mRNA [NM_002098]   |
| A.33.P346783   | -5.842 | -2.546 | 5.842 | down | PUM1         | Homo sapiens protein 4 (PUM1), mRNA [NM_001004930]  |
| A.21.P0000646  | -5.837 | -2.545 | 5.837 | down | LINC00900    | Homo sapiens long intergenic non-protein coding RNA 900 [LINC00900], long non-coding RNA [NR_034148]  |
| A.23.P321354   | -5.831 | -2.544 | 5.831 | down | TMEM71       | Homo sapiens transmembrane protein 71 (TMEM71), transcript variant 1, mRNA [NM_144648]  |
| A.23.P322808   | -5.830 | -2.543 | 5.830 | down | BACE1        | Homo sapiens beta-site APP-cleaving enzyme 1 (BACE1), transcript variant 2, mRNA [NM_012104]  |
| A.33.P3200965  | -5.821 | -2.542 | 5.821 | down | LINC0089348  | Homo sapiens uncharacterized LOC10089348, [LINC0089348], transcript variant 1, long non-coding RNA [NR_121830]  |
| A.33.P3201723  | -5.811 | -2.539 | 5.811 | down | KIAA0922     | Homo sapiens KIAA0922, (KAA0922), transcript variant 2, mRNA [NM_015196]  |
| A.33.P3321070  | -5.810 | -2.538 | 5.810 | down | WNT4         | wingless-type WNTV integration site family, member 4 [Source:HGNC Symbol;Acc:HGNC:12183] [ENST00000415667]  |
| A.24.P384057   | -5.808 | -2.538 | 5.808 | down | OT1orf70     | Homo sapiens chromosome 11 open reading frame 70 (OT1orf70), transcript variant 1, mRNA [NM_028330]   |
| A.22.P00003644 | -5.806 | -2.537 | 5.806 | down | RGMB-AS1     | Homo sapiens RGMB antisense RNA 1 (RGMB-AS1), long non-coding RNA [NR_033932]   |
| A.23.P72117    | -5.796 | -2.535 | 5.796 | down | SMPO13A      | Homo sapiens sphingomyelin phosphodiesterase, acid-like 3A (SMPO13A), transcript variant 1, mRNA [NM_008714]  |
| A.23.P381448   | -5.794 | -2.535 | 5.794 | down | SESN3        | Homo sapiens sestrin 3 (SESN3), transcript variant 1, mRNA [NM_144685]  |
| A.23.P320070   | -5.776 | -2.530 | 5.776 | down | MDR38        | Homo sapiens MD repeat domain 78 (MDR78), transcript variant 2, mRNA [NM_207014]  |
| A.22.P321108   | -5.769 | -2.528 | 5.769 | down | PCAD1        | Homo sapiens adipocyte cytoplasmic cell-down-regulated 1 (ACCD1), mRNA [NM_036900]  |
| A.33.P3564143  | -5.763 | -2.528 | 5.763 | down | IL17RA       | Homo sapiens interleukin 17 receptor A (IL17RA), transcript variant 1, mRNA [NM_018884]   |
| A.23.P104876   | -5.744 | -2.524 | 5.744 | down | SPAL1        | Homo sapiens sperm autoantigen protein 17 (SPAL1), mRNA [NM_011426]   |
| A.22.P00015506 | -5.742 | -2.522 | 5.742 | down | STXB4        | sortilin binding protein 4 (Source:HGNC Symbol;Acc:HGNC:1884) [ENST00000376352]   |
| A.33.P321432   | -5.738 | -2.521 | 5.738 | down | FAM198B      | Homo sapiens family with sequence similarity 198, member B (FAM198B), transcript variant 2, mRNA [NM_018613]  |
| A.23.P211401   | -5.725 | -2.517 | 5.725 | down | KREMEN1      | Homo sapiens kringle containing transmembrane protein 1 (KREMEN1), transcript variant 3, mRNA [NM_001039570]  |
| A.33.P3264646  | -5.715 | -2.515 | 5.715 | down | SANDPL       | sterile alpha motif domain containing 9-like [Source:HGNC Symbol;Acc:HGNC:1348] [ENST00000610760]   |
| A.33.P3505337  | -5.689 | -2.511 | 5.689 | down | LOC285178    | Homo sapiens cDNA FLJ34295, clone F08BF5000061, AK091571  |
| A.24.P146683   | -5.689 | -2.511 | 5.689 | down | MSMB         | Homo sapiens microsomal protein, beta- (MSMB), transcript variant PSP9A, mRNA [NM_002443]   |
| A.23.P31240    | -5.688 | -2.510 | 5.688 | down | GAL3ST4      | Homo sapiens galactose-3-O-sulfotransferase 4 (GAL3ST4), mRNA [NM_024637]   |
| A.33.P3332970  | -5.685 | -2.510 | 5.685 | down | CLEC2B       | Homo sapiens C-type lectin domain family 2, member B (CLEC2B), mRNA [NM_005127]   |
| A.32.P205241   | -5.687 | -2.508 | 5.687 | down | GJX3         | Homo sapiens gap junction protein, alpha 3, 480aa (GJX3), mRNA [NM_021954]  |
| A.33.P3268798  | -5.678 | -2.505 | 5.678 | down | ADAT2        | Homo sapiens adenosine deaminase, tRNA-specific 2 (ADAT2), transcript variant 2, mRNA [NM_0128293]  |
| A.22.P00005423 | -5.669 | -2.503 | 5.669 | down | DTWD1        | Homo sapiens domain containing 1 [Source:HGNC Symbol;Acc:HGNC:20926] [ENST00000312450]  |
| A.21.P0000917  | -5.666 | -2.500 | 5.666 | down | LOC100607316 | Homo sapiens uncharacterized LOC100607316 (LOC100607316), transcript variant 1, long non-coding RNA [NR_120882]   |
| A.23.P383386   | -5.651 | -2.489 | 5.651 | down | PDPFC        | Homo sapiens alpha1, domain growth factor, C (PDPFC), transcript variant 1, mRNA [NM_018295]  |
| A.24.P419300   | -5.647 | -2.487 | 5.647 | down | PTP080       | Homo sapiens uncharacterized LOC283846 (PTP080), long non-coding RNA [NR_024159]  |
| A.24.P360206   | -5.639 | -2.485 | 5.639 | down | PCDH11       | Homo sapiens protocadherin alpha 11 (PCDH11), transcript variant 1, mRNA [NM_018902]  |
| A.21.P0012822  | -5.634 | -2.484 | 5.634 | down | ALOC1213730  | BROAD Institute lincRNA ALLOC1213730, lincRNA [TCONS_ID_00228400]   |
| A.24.P320285   | -5.620 | -2.481 | 5.620 | down | MOE3B        | Homo sapiens MOB kinase activator 3B (MOE3B), mRNA [NM_024761]  |
| A.24.P10137    | -5.620 | -2.480 | 5.620 | down | RGCC         | Homo sapiens regulator of cell cycle (RGCC), mRNA [NM_014059]   |
| A.33.P3208862  | -5.618 | -2.480 | 5.618 | down | ABCC5        | Homo sapiens ATP-binding cassette, sub-family C (CFTR/MRP), member 5 (ABCC5), transcript variant 2, mRNA [NM_001023587]                                       |
| A.33.P3265189  | -5.613 | -2.489 | 5.613 | down | DSG1         | Homo sapiens desmoglein 1 (DSG1), mRNA [NM_001942]  |
| A.23.P423856   | -5.611 | -2.488 | 5.611 | down | MXD4         | Homo sapiens MAX dimerization protein 4 (MXD4), mRNA [NM_006454]  |
| A.33.P331250   | -5.607 | -2.487 | 5.607 | down | DHFR1L       | Homo sapiens dihydrofolate reductase-like 1 (DHFR1L), transcript variant 1, mRNA [NM_001195643]   |
| A.33.P3379214  | -5.598 | -2.485 | 5.598 | down | CEOR6        | Homo sapiens cat eye syndrome chromosome 3 region, candidate 6 (CEOR6), transcript variant 1, mRNA [NM_031990]  |
| A.23.P393944   | -5.579 | -2.480 | 5.579 | down | PDPDC2       | Homo sapiens domain containing 2 (PDPDC2), mRNA [NM_022138]   |
| A.23.P351250   | -5.572 | -2.478 | 5.572 | down | MYBPHL       | Homo sapiens myocyte binding protein H-like (MYBPHL), transcript variant 1, mRNA [NM_001010086]   |
| A.21.P0000017  | -5.561 | -2.475 | 5.561 | down | RPS30        | Homo sapiens ribosomal protein S20 (RPS30), transcript variant 1, mRNA [NM_001146292]   |
| A.33.P3299279  | -5.547 | -2.472 | 5.547 | down | ANXA4R       | Homo sapiens annexin A2 receptor (ANXA2R), mRNA [NM_001014279]  |
| A.24.P090500   | -5.545 | -2.471 | 5.545 | down | BDH2         | Homo sapiens 3-hydroxybutyrate dehydrogenase, type 2 (BDH2), mRNA [NM_020139]   |
| A.23.P181986   | -5.544 | -2.471 | 5.544 | down | HPX          | Homo sapiens hemopexin (HPX), mRNA [NM_000613]  |

|                |        |        |       |      |  |
|----------------|--------|--------|-------|------|--|
| A_24_P102880   | -5.543 | -2.471 | 5.543 | NAV1 | Homo sapiens neuron navigator 1 (NAV1), transcript variant 1, mRNA [NM_020443]   |
| A_21_P0011839  | -5.539 | -2.470 | 5.539 | down |  |
| A_21_P0002988  | -5.533 | -2.468 | 5.533 | down | Homo sapiens uncharacterized LOC102724590 (LOC102724590), long non-coding RNA [NR_108293]  |
| A_23_P259442   | -5.526 | -2.466 | 5.526 | down | Homo sapiens carboxypeptidase E (CPE), mRNA [NM_001875]  |
| A_22_P00007914 | -5.526 | -2.466 | 5.526 | down | Homo sapiens long intergenic non-protein coding RNA 1033 (LINCO1033), long non-coding RNA [NR_126279]  |
| A_23_P168551   | -5.523 | -2.466 | 5.523 | down | Homo sapiens solid carrier family 29 (equilibrative nucleoside transporter), member 4 (SLC29A4), transcript variant 1, mRNA [NM_001040861]                   |
| A_23_P194571   | -5.521 | -2.465 | 5.521 | down | Homo sapiens ELAV like neuron-specific RNA binding protein 2 (ELAVL2), transcript variant 1, mRNA [NM_004452]  |
| A_21_P0014210  | -5.509 | -2.462 | 5.509 | down | Homo sapiens uncharacterized LOC101927172 (LOC101927172), transcript variant X2, mRNA [XM_02424111]  |
| A_23_P246812   | -5.504 | -2.461 | 5.504 | down | Homo sapiens telomerase associated 17 (SPATA17), mRNA [NM_135786]  |
| A_24_P252078   | -5.500 | -2.459 | 5.500 | down | Homo sapiens butyrophilin, subfamily 3, member A2 (BTNA2), transcript variant 1, mRNA [NM_007047]  |
| A_22_P00009408 | -5.494 | -2.458 | 5.494 | down | FOXO3 HUMAN (Q13461) Forkhead box protein F3 (Forkhead-related protein FHLH12) (Forkhead-related transcription factor 8) (FKHR-8), partial (3%) [HIC2612246] |
| A_32_P105083   | -5.494 | -2.458 | 5.494 | down | Homo sapiens endonuclease V (ENDOV), transcript variant 1, mRNA [NM_173827]  |
| A_24_P361457   | -5.485 | -2.456 | 5.485 | down | Homo sapiens mab-21-like 3 (G. elegans) (MAB21L3), mRNA [NM_152367]  |
| A_23_P343386   | -5.469 | -2.451 | 5.469 | down | Homo sapiens transmembrane protein 229B (TMEM229B), mRNA [NM_185256]   |
| A_33_P3355014  | -5.460 | -2.449 | 5.460 | down | long intergenic non-protein coding RNA 1590 [Source:HGNC Symbol;Acc:HGNC:20111] [ENS:PT0000554892]   |
| A_21_P0008485  | -5.459 | -2.449 | 5.459 | down | Homo sapiens chromosome 2 open reading frame 27A (C2orf27A), mRNA [NM_013310]  |
| A_33_P3418881  | -5.456 | -2.448 | 5.456 | down | HCG181308 (EGC0000313)   |
| A_19_P0322259  | -5.455 | -2.448 | 5.455 | down | Homo sapiens collagen triple helix repeat containing 1 (CHRC1), transcript variant 1, mRNA [NM_138455]   |
| A_23_P111888   | -5.453 | -2.447 | 5.453 | down | Homo sapiens zinc finger CCHC-type containing 2A (ZCCH22A), mRNA [NM_026079]   |
| A_33_P3291470  | -5.452 | -2.447 | 5.452 | down | Homo sapiens transmembrane protein 19 (TMEM19), mRNA [NM_018276]   |
| A_33_P3401943  | -5.440 | -2.444 | 5.440 | down | Homo sapiens inhibitor of DNA binding 3, dominant negative helix-loop-helix protein (ID3), mRNA [NM_002167]  |
| A_23_P137881   | -5.436 | -2.442 | 5.436 | down | Homo sapiens utrophin (UTRN), mRNA [NM_007124]   |
| A_32_P324014   | -5.434 | -2.442 | 5.434 | down | Homo sapiens acyl-CoA dehydrogenase, short/branched chain (ACADSB), mRNA [NM_001809]   |
| A_33_P3248992  | -5.428 | -2.440 | 5.428 | down | Homo sapiens DKF-Z634H419 (PKI55), long non-coding RNA [NR_037701]   |
| A_33_P3282409  | -5.427 | -2.440 | 5.427 | down | Homo sapiens RBMZ4 antisense RNA 1 (RBMZ4-AS1), long non-coding RNA [NR_038891]  |
| A_22_P00010577 | -5.419 | -2.438 | 5.419 | down | Homo sapiens zinc finger and SCAN domain containing 31 (ZSCAN31), transcript variant 1, mRNA [NM_038898]   |
| A_23_P214533   | -5.418 | -2.438 | 5.418 | down | Homo sapiens codonon protein complex, subunit zeta 2 (COPZ2), mRNA [NM_016429]   |
| A_23_P101083   | -5.414 | -2.437 | 5.414 | down | Homo sapiens RAS-like family 11, member B (RASL11B), mRNA [NM_023840]  |
| A_24_P369738   | -5.409 | -2.435 | 5.409 | down | Homo sapiens MAX dimerization protein 4 (MDM4), mRNA [NM_006554]   |
| A_24_P234742   | -5.392 | -2.431 | 5.392 | down |  |
| A_21_P0011877  | -5.388 | -2.419 | 5.388 | down |  |
| A_33_P3403513  | -5.345 | -2.418 | 5.345 | down | Homo sapiens mitogen-activated protein kinase 11 (MAPK11), transcript variant 1, mRNA [NM_002705]  |
| A_23_P214088   | -5.344 | -2.418 | 5.344 | down | Homo sapiens early growth response 1 (EGR1), mRNA [NM_001394]  |
| A_23_P214089   | -5.344 | -2.418 | 5.344 | down | Homo sapiens centrosomal protein 360kDa (CEP350), mRNA [NM_001473]   |
| A_24_P3262589  | -5.332 | -2.415 | 5.332 | down | Homo sapiens vesicular traffic kinase family, member 4 (VTK4), mRNA [NM_00102418]  |
| A_24_P309921   | -5.333 | -2.415 | 5.333 | down | Homo sapiens potassium inwardly-rectifying channel, subfamily 9, member 5 (KCNJ5), mRNA [NM_000890]  |
| A_33_P3611762  | -5.323 | -2.412 | 5.323 | down | Homo sapiens TRAMP2 antisense RNA 1 (head to head) (TRAMP2-AS1), transcript variant 1, long non-coding RNA [NR_103446]                                       |
| A_33_P3030886  | -5.308 | -2.408 | 5.308 | down | Homo sapiens keratin 2, type II (KRT2), mRNA [NM_000423]   |
| A_23_P183712   | -5.304 | -2.407 | 5.304 | down | Homo sapiens coiled-coil and G2 domain containing 2A (CC2D2A), transcript variant 2, mRNA [NM_020785]  |
| A_33_P3359382  | -5.284 | -2.402 | 5.284 | down | Homo sapiens cytochrome P450, family 9B, subfamily A, polypeptide 1 (CYP9BA1), transcript variant 1, mRNA [NM_016593]  |
| A_24_P918907   | -5.282 | -2.401 | 5.282 | down | Homo sapiens B-cell CLL/lymphoma 11B (zinc finger protein) (BCL11B), transcript variant 1, mRNA [NM_138576]  |
| A_24_P240259   | -5.277 | -2.400 | 5.277 | down | Homo sapiens family with sequence similarity 115, member C pseudogene (LOC154761), non-coding RNA [NR_015421]  |
| A_23_P130687   | -5.273 | -2.399 | 5.273 | down | Homo sapiens leucine rich repeat containing 31 (LRRC31), transcript variant 1, mRNA [NM_024727]  |
| A_23_P231796   | -5.272 | -2.398 | 5.272 | down | Homo sapiens endoplasmic reticulum protein 27 (ERP27), transcript variant 1, mRNA [NM_152321]  |
| A_19_P00315584 | -5.260 | -2.398 | 5.260 | down | Homo sapiens uncharacterized LOC100989293 (LOC100989293), long non-coding RNA [NR_126279]  |
| A_33_P32676515 | -5.264 | -2.393 | 5.264 | down | Homo sapiens uncharacterized LOC100100681 (LOC100100681), long non-coding RNA [NR_026866]  |
| A_23_P3885     | -5.246 | -2.392 | 5.246 | down | Homo sapiens signal sequence receptor delta pseudogene 1 (SSSRP1), non-coding RNA [NR_027292]  |
| A_32_P122226   | -5.242 | -2.390 | 5.242 | down | Homo sapiens keratin-36 gamma (KRT36), mRNA [NM_192455]  |
| A_23_P41470    | -5.238 | -2.389 | 5.238 | down | Homo sapiens DEAD (Asp-Glu-Alu-Asp) box polypeptide 60 (DDX60), mRNA [NM_017631]   |
| A_24_P319113   | -5.233 | -2.388 | 5.233 | down | Homo sapiens purinergic receptor P2X, ligand-gated ion channel, 7 (P2RX7), transcript variant 1, mRNA [NM_002562]  |
| A_33_P3242659  | -5.223 | -2.387 | 5.223 | down | Homo sapiens utrophin (UTRN), mRNA [NM_007124]   |
| A_33_P3368010  | -5.225 | -2.385 | 5.225 | down | solute carrier family 29 (nucleoside transporter), member 4 pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:49783] [ENS:PT0000389700]                              |
| A_21_P0009210  | -5.204 | -2.380 | 5.204 | down | LINGGedia lincRNA (linc-PAFAH1B1-3), lincRNA [linc-PAFAH1B1-3]   |
| A_23_P202427   | -5.188 | -2.378 | 5.188 | down | Homo sapiens hexokinase domain containing 1 (HKDC1), mRNA [NM_025130]  |
| A_21_P0002875  | -5.185 | -2.377 | 5.185 | down | LINGGedia lincRNA (linc-RP11-7250416-1), lincRNA [linc-RP11-7250416-1-12]  |
| A_32_P4018     | -5.191 | -2.376 | 5.191 | down | Homo sapiens receptor tyrosine kinase-like orphan receptor 1 (ROK1), transcript variant 1, mRNA [NM_000712]  |
| A_21_P001262   | -5.191 | -2.376 | 5.191 | down | Homo sapiens uncharacterized LOC100507144 (LOC100507144), long non-coding RNA [NR_126593]  |
| A_22_P00004333 | -5.190 | -2.376 | 5.190 | down | Homo sapiens uncharacterized LOC101927371 (LOC101927371), transcript variant X2, mRNA [XR_249236]  |
| A_33_P33434175 | -5.180 | -2.376 | 5.180 | down | Homo sapiens chromosome X-C-G repeat band 10, CXCL10, mRNA [NM_001656]   |
| A_23_P17053    | -5.186 | -2.375 | 5.186 | down | Homo sapiens interleukin 36 gamma (IL36G), transcript variant 1, mRNA [NM_018618]  |
| A_23_P2705     | -5.183 | -2.374 | 5.183 | down | Homo sapiens lysophosphatidic acid receptor 6 (LPAR6), transcript variant 1, mRNA [NM_005767]  |
| A_32_P184312   | -5.179 | -2.373 | 5.179 | down | Homo sapiens adrenergic cell adhesion molecule 2 (SDCK2), mRNA [NM_001144932]  |
| A_22_P00004542 | -5.174 | -2.371 | 5.174 | down | Homo sapiens PARD3 antisense RNA 1 (PARD3-AS1), long non-coding RNA [NR_108043]  |

|                |        |        |       |      |                |  |
|----------------|--------|--------|-------|------|----------------|--|
| A.23.P1632009  | -5.171 | -2.371 | 5.171 | down | BCL2L10        | Homo sapiens BCL2-like 10 (apoptosis facilitator) [BC2L10], mRNA [NM_020396]   |
| A.23.P106898   | -5.170 | -2.370 | 5.170 | down | ORAI3          | Homo sapiens ORAI calcium release-activated calcium modulator 3 (ORAI3), mRNA [NM_132288]  |
| A.22.P00004660 | -5.161 | -2.368 | 5.161 | down | FGFR2          | Homo sapiens fibroblast growth factor receptor 2 (FGFR2), transcript variant 2, mRNA [NM_022970]   |
| A.23.P292334   | -5.154 | -2.366 | 5.154 | down | RHOG           | Homo sapiens Rho family G protein-coupled receptor 12 (RHOG), transcript variant 1, mRNA [NM_016321]   |
| A.23.P151975   | -5.151 | -2.365 | 5.151 | down | CTIP2          | Homo sapiens chromosome 1 open reading frame 216 (CtIP2), mRNA [NM_152374]   |
| A.23.P2921377  | -5.150 | -2.365 | 5.150 | down | GP26           | Homo sapiens glypican 6 (GP26), mRNA [NM_005708]   |
| A.23.P371682   | -5.145 | -2.363 | 5.145 | down | TSCA10         | Homo sapiens testis specific 10 (TSCA10), transcript variant 1, mRNA [NM_025244]   |
| A.23.P171703   | -5.135 | -2.360 | 5.135 | down | ATP1F2         | Homo sapiens activating transcription factor 7 interacting protein 2 (ATP1F2), transcript variant 1, mRNA [NM_024997]                                    |
| A.23.P129466   | -5.118 | -2.355 | 5.118 | down | SYNGR1         | Homo sapiens synaptogyrin 1 (SYNGR1), transcript variant 1b, mRNA [NM_034211]  |
| A.23.P246823   | -5.109 | -2.353 | 5.109 | down | COL4A5         | Homo sapiens collagen type IV alpha 5 (COL4A5), transcript variant 1, mRNA [NM_032380]   |
| A.23.P456165   | -5.107 | -2.352 | 5.107 | down | COL4A3         | Homo sapiens collagen type IV alpha 3 (COL4A3), transcript variant 1, mRNA [NM_012426]   |
| A.23.P268426   | -5.106 | -2.352 | 5.106 | down | PTIPN3         | Homo sapiens PTPN family member 3 (PTIPN3), transcript variant 1, mRNA [NM_031220]   |
| A.33.P23442653 | -5.105 | -2.352 | 5.105 | down | PTIPN3         | Homo sapiens PTPN family member 3 (PTIPN3), transcript variant 1, mRNA [NM_031220]   |
| A.24.P448898   | -5.100 | -2.350 | 5.100 | down | APOL2          | Homo sapiens apolipoprotein L 2 (APOL2), transcript variant beta, mRNA [NM_145637]   |
| A.21.P0003632  | -5.097 | -2.350 | 5.097 | down | lnc-RAP1-OS1-3 | LINC00612 (lnc-RAP1-OS1-3), lincRNA [lnc-RAP1-OS1-3], mRNA [NM_00103659]   |
| A.23.P2385248  | -5.089 | -2.348 | 5.089 | down | ZNF793         | Homo sapiens zinc finger protein 793 (ZNF793), mRNA [NM_001010865]   |
| A.33.P7299171  | -5.085 | -2.346 | 5.085 | down | AAOAC          | Homo sapiens arylacetamidase (AAOAC), mRNA [NM_0010086]  |
| A.23.P230818   | -5.083 | -2.346 | 5.083 | down | SMD            | Homo sapiens smoothend, frizzled class receptor (SMD), mRNA [NM_006431]  |
| A.23.P292148   | -5.073 | -2.343 | 5.073 | down | DNER           | Homo sapiens delta notch-like EGF repeat containing (DNER), mRNA [NM_139072]   |
| A.21.P0011846  | -5.065 | -2.341 | 5.065 | down | TRIM6          | PREDICTED: Homo sapiens basic protein-rich protein-like (LOC100509922), mRNA [NM_005263848]  |
| A.24.P3981189  | -5.060 | -2.339 | 5.060 | down | MBD5           | Homo sapiens methyl-CpG binding domain protein 5 (MBD5), mRNA [NM_01003818]  |
| A.33.P0954030  | -5.055 | -2.338 | 5.055 | down | MBD5           | Homo sapiens methyl-CpG binding domain protein 5 (MBD5), mRNA [NM_01003818]  |
| A.22.P00001217 | -5.051 | -2.336 | 5.051 | down | lnc-ANKRD11-1  | AGENOURT_7892177 NH_MGC_67 Homo sapiens cDNA clone IMAGE6139566 5', mRNA sequence [BU191572]   |
| A.23.P265074   | -5.050 | -2.336 | 5.050 | down | SLC46A3        | Homo sapiens solute carrier family 46, member 3 (SLC46A3), transcript variant 1, mRNA [NM_181785]  |
| A.24.P369280   | -5.047 | -2.336 | 5.047 | down | ALDH1B1        | Homo sapiens aldehyde dehydrogenase 9 family, member 1A (ALDH1B1), mRNA [NM_000696]  |
| A.22.P00003190 | -5.046 | -2.335 | 5.046 | down | LOC100898348   | Homo sapiens uncharacterized LOC100898348 (LOC100898348), transcript variant 4, long non-coding RNA [NR_024822]  |
| A.21.P00002948 | -5.038 | -2.332 | 5.038 | down | EL102035       | Homo sapiens uncharacterized LOC308821 (EL102035), long non-coding RNA [NR_033847]   |
| A.21.P00004661 | -5.034 | -2.332 | 5.034 | down | GAGE2B         | Homo sapiens GAGE2B (GAGE2B), mRNA [NM_001010841]  |
| A.23.P400888   | -5.017 | -2.327 | 5.017 | down | FAM83C         | Homo sapiens family with sequence similarity 83, member C (FAM83C), mRNA [NM_178468]   |
| A.23.P3011884  | -5.002 | -2.322 | 5.002 | down | SRRF48         | Homo sapiens chromosome 8 open reading frame 48 (SRRF48), mRNA [NM_001007090]  |
| A.22.P00001253 | -4.992 | -2.320 | 4.992 | down | lnc-ANKRD34B-2 | 603261339F1 NH_MGC_96 Homo sapiens cDNA clone IMAGE5303817 5', mRNA sequence [BU596592]  |
| A.33.P3323942  | -4.981 | -2.316 | 4.981 | down | BDNF-AS        | Homo sapiens BDNF antisense RNA (BDNF-AS), transcript variant BT2B, long non-coding RNA [NR_024822]  |
| A.24.P98079    | -4.980 | -2.316 | 4.980 | down | FRANK1         | Homo sapiens tetracosapside repeat and ankyrin repeat containing 1 (FRANK1), mRNA [NM_014831]  |
| A.23.P292821   | -4.973 | -2.314 | 4.973 | down | UBQLN1         | Homo sapiens ubiquitin-like (UBQLN1), mRNA [NM_145053]   |
| A.23.P251202   | -4.973 | -2.314 | 4.973 | down | ZNF436         | Homo sapiens zinc finger protein 436 (ZNF436), transcript variant 1, mRNA [NM_001077195]   |
| A.22.P00025914 | -4.957 | -2.309 | 4.957 | down | PREDICTED      | PREDICTED: Homo sapiens uncharacterized LOC101927402 (LOC101927402), mRNA [XM_005266677]   |
| A.24.P192827   | -4.955 | -2.309 | 4.955 | down | MLL13          | Homo sapiens myeloid/lymphoid or mixed-lineage leukemia (viral) homolog (Drosophila), translocated to, 3 (MLL13), transcript variant 1, mRNA [NM_004529] |
| A.23.P94784    | -4.953 | -2.308 | 4.953 | down | TNFSF15        | Homo sapiens tumor necrosis factor (ligand) superfamily, member 15 (TNFSF15), transcript variant 1, mRNA [NM_005118]                                     |
| A.23.P292749   | -4.948 | -2.307 | 4.948 | down | TRPA           | Homo sapiens transient receptor potential cation channel subfamily 4, member 1, mRNA [NM_002820]   |
| A.23.P2904114  | -4.948 | -2.307 | 4.948 | down | PREDICTED      | PREDICTED: Homo sapiens uncharacterized LOC101928439 (LOC101928439), mRNA [XC_242484]  |
| A.33.P2623273  | -4.943 | -2.305 | 4.943 | down | OTUD7A         | Homo sapiens OTU domain-containing 7A (OTUD7A), mRNA [NM_110061]   |
| A.21.P0001530  | -4.943 | -2.305 | 4.943 | down | lnc-PLEKHA5-1  | LINC00612 (lnc-PLEKHA5-1), lincRNA [lnc-PLEKHA5-1], mRNA [NM_120586]   |
| A.33.P9418833  | -4.926 | -2.300 | 4.926 | down | FLRT3          | Homo sapiens fibronectin leucine rich transmembrane protein 3 (FLRT3), transcript variant 2, mRNA [NM_198391]  |
| A.24.P290576   | -4.922 | -2.299 | 4.922 | down | TNIK           | Homo sapiens TRAF2 and NCK interacting kinase (TNIK), transcript variant 1, mRNA [NM_015026]   |
| A.33.P2928357  | -4.921 | -2.299 | 4.921 | down | FOXE1          | Homo sapiens forkhead box E1 (FOXE1), mRNA [NM_004473]   |
| A.33.P29212570 | -4.921 | -2.299 | 4.921 | down | PYCARD-AS1     | Homo sapiens PYCARD antisense RNA 1 (PYCARD-AS1), long non-coding RNA [NR_102400]  |
| A.32.P29823    | -4.920 | -2.299 | 4.920 | down | LOC101928837   | Homo sapiens uncharacterized LOC101928837 (LOC101928837), transcript variant 1, long non-coding RNA [NR_120586]  |
| A.33.P3331601  | -4.919 | -2.298 | 4.919 | down | THNSL1         | Homo sapiens threonine synthase-like 1 (S. cerevisiae) (THNSL1), mRNA [NM_024838]  |
| A.33.P338980   | -4.910 | -2.296 | 4.910 | down | LINC01220      | long intergenic non-protein coding RNA 1220 [Source:HGNC Symbol;Acc:HGNC:49664] [ENS:00000589575]  |
| A.23.P21976    | -4.899 | -2.292 | 4.899 | down | ESFG4          | Homo sapiens chondroitin sulfate proteoglycan 4 (ESFG4), mRNA [NM_001897]  |
| A.24.P110831   | -4.898 | -2.292 | 4.898 | down | ANO1           | anocammin 1, calcium activated chloride channel [Source:HGNC Symbol;Acc:HGNC:21625] [ENS:00000102936]  |
| A.23.P290478   | -4.891 | -2.290 | 4.891 | down | PKD3           | Homo sapiens protein kinase domain containing 3 (PKD3), transcript variant 2, mRNA [NM_005391]   |
| A.32.P352259   | -4.882 | -2.288 | 4.882 | down | LOC650203      | Homo sapiens seven transmembrane beta receptor (LOC650203), mRNA [NM_001040071]  |
| A.32.P189790   | -4.889 | -2.284 | 4.889 | down | DKFZp779M652   | Homo sapiens uncharacterized DKFZp779M652 (DKFZp779M652), long non-coding RNA [NR_027134]  |
| A.32.P52816    | -4.888 | -2.283 | 4.888 | down | TM7SF3         | Homo sapiens transmembrane 7 specifically member 3 (TM7SF3), mRNA [NM_016551]  |
| A.22.P00005497 | -4.859 | -2.281 | 4.859 | down | DYX1C1         | Homo sapiens dyx1c1 susceptibility 1 candidate 1 (DYX1C1), transcript variant 3, mRNA [NM_001033560]   |
| A.33.P337866   | -4.840 | -2.275 | 4.840 | down | PDGFA          | Homo sapiens platelet-derived growth factor alpha polypeptide (PDGFA), transcript variant 2, mRNA [NM_033023]  |
| A.33.P3251640  | -4.827 | -2.271 | 4.827 | down | LINC00663      | Homo sapiens long intergenic non-protein coding RNA 663 (LINC00663), long non-coding RNA [NR_026956]   |
| A.23.P97049    | -4.809 | -2.266 | 4.809 | down | SORL1          | Homo sapiens sortilin-related receptor, LDLR class A repeats containing (SORL1), mRNA [NM_005105]  |
| A.23.P65518    | -4.809 | -2.266 | 4.809 | down | DACT1          | Homo sapiens dishevelled-binding antagonist of beta-catenin 1 (DACT1), transcript variant 1, mRNA [NM_016551]  |
| A.33.P3271385  | -4.799 | -2.263 | 4.799 | down | LOC100199534   | Homo sapiens small nuclear ribonucleoprotein polypeptide N pseudogene (LOC100199534), non-coding RNA [NR_024493]   |
| A.24.P198314   | -4.797 | -2.262 | 4.797 | down | GARNL3         | Homo sapiens GTPase activating Rho/RacGAP domain-like 3 (GARNL3), transcript variant 1, mRNA [NM_029293]   |
| A.22.P00006832 | -4.797 | -2.262 | 4.797 | down | lnc-GALAD1-2   | AE02300 Pac1a-63464800 Homo sapiens lnc-GALAD1-2, lincRNA [lnc-GALAD1-2], mRNA [NM_029293]   |
| A.33.P7283780  | -4.797 | -2.262 | 4.797 | down | lnc-CHD11-1    | AE02300 Pac1a-63464800 Homo sapiens lnc-CHD11-1, lincRNA [lnc-CHD11-1], mRNA [NM_029293]   |
| A.23.P215634   | -4.797 | -2.262 | 4.797 | down | IGFBP3         | Homo sapiens insulin-like growth factor binding protein 3 (IGFBP3), transcript variant 1, mRNA [NM_001013398]  |
| A.33.P3323233  | -4.795 | -2.262 | 4.795 | down | ZNF497         | Homo sapiens zinc finger protein 497 (ZNF497), transcript variant 1, mRNA [NM_198448]  |



|                |        |        |       |                 |   |
|----------------|--------|--------|-------|-----------------|---|
| A.33.P32004562 | -4.794 | -2.261 | 4.794 | GLI3            | Homo sapiens GLI family zinc finger 3 (GLI3), mRNA [NM_000168]  |
| A.23.P40682    | -4.789 | -2.260 | 4.789 | COCT1B          | Homo sapiens chaperonin containing TCP1, subunit 6B (zeta 2) (COCT1B), transcript variant 1, mRNA [NM_006584]                       |
| A.23.P3003833  | -4.788 | -2.260 | 4.788 | SC4MB           | Homo sapiens sodium channel, voltage gated, type IV beta subunit (SC4MB), transcript variant 1, mRNA [NM_174934]                    |
| A.23.P154005   | -4.785 | -2.258 | 4.785 | SULF2           | Homo sapiens sulfatase 2 (SULF2), transcript variant 1, mRNA [NM_018857]  |
| A.23.P127140   | -4.784 | -2.258 | 4.784 | ZNF214          | Homo sapiens zinc finger protein 214 (ZNF214), mRNA [NM_013249]   |
| A.21.P0012208  | -4.782 | -2.258 | 4.782 | CHOP3           | Chromosome 9 open reading frame 3 (Source:HGNC Symbol;Acc:HGNC:186) [ENST00000480598]   |
| A.24.P101018   | -4.779 | -2.256 | 4.779 | PABP14          | Homo sapiens poly (ADP-ribose) polymerase family, member 14 (PABP14), mRNA [NM_017595]  |
| A.33.P3240855  | -4.785 | -2.252 | 4.785 | UTRN            | Homo sapiens utrophin (UTRN), mRNA [NM_007128]  |
| A.33.P3240856  | -4.785 | -2.252 | 4.785 | UTRN            | Homo sapiens utrophin (UTRN), mRNA [NM_007128]  |
| A.24.P14154    | -4.783 | -2.250 | 4.783 | STY4            | Homo sapiens stathmin (STY4), transcript variant 2, mRNA [NM_168184]  |
| A.33.P3264133  | -4.753 | -2.249 | 4.753 | GLI2BP9         | Homo sapiens glioma associated protein 9 (GLI2BP9), mRNA [NM_001163076]   |
| A.21.P0000624  | -4.752 | -2.249 | 4.752 | SLC6A13         | Homo sapiens solute carrier family 6 (neurotransmitter transporter), member 13 (SLC6A13), transcript variant 3, mRNA [NM_001243392] |
| A.24.P71700    | -4.751 | -2.248 | 4.751 | ZEB1A7          | Homo sapiens zinc finger and E1B domain containing 47 (ZEB1A7), mRNA [NM_145166]  |
| A.21.P0012700  | -4.743 | -2.246 | 4.743 | ALOC12.011407   | BROAD leucine rich repeat domain containing 12.011407, lincRNA [CONC12.0021471]   |
| A.32.P226078   | -4.739 | -2.245 | 4.739 | OA23            | Homo sapiens ornithine decarboxylase antizyme 3 (OA23), transcript variant 1, mRNA [NM_018178]                                      |
| A.22.P0018073  | -4.739 | -2.244 | 4.739 | linc-ZNF33A-2   | LINCpedia lincRNA, linc-ZNF33A-2, lincRNA [linc-ZNF33A-2]   |
| A.33.P3421118  | -4.737 | -2.244 | 4.737 | INTOR2A         | Interleukin 20 receptor, alpha (Source:HGNC Symbol;Acc:HGNC:8003) [ENST00000008748]   |
| A.23.P98057    | -4.736 | -2.244 | 4.736 | ZNF32           | Homo sapiens zinc finger protein 32 (ZNF32), transcript variant 2, mRNA [NM_001006388]  |
| A.23.P0002039  | -4.732 | -2.243 | 4.732 | RASSF8-AS1      | Homo sapiens RASSF8 antisense RNA 1 (RASSF8-AS1), transcript variant 1, long non-coding RNA [NR_038227]                             |
| A.23.P31765    | -4.731 | -2.242 | 4.731 | PKA             | Homo sapiens protein kinase (GAMP-dependent, catalytic) inhibitor alpha (PKA), transcript variant 1, mRNA [NM_006823]               |
| A.21.P0012426  | -4.725 | -2.240 | 4.725 | LOC10566472     | Homo sapiens uncharacterized LOC10566472 (LOC10566472), long non-coding RNA [NR_046535]   |
| A.22.P0010582  | -4.717 | -2.238 | 4.717 | GRP1BE          | Homo sapiens cDNA FLJ39585, clone TRAC200847.9, P4093872  |
| A.19.P032882   | -4.705 | -2.236 | 4.705 | MAP7D9          | Homo sapiens protein phosphatase 1 regulatory subunit 9B (PPP1R9B), mRNA [NM_0076316]   |
| A.23.P148207   | -4.705 | -2.234 | 4.705 | SH3BGRL         | Homo sapiens small nuclear RNA, C/D box 1A (SNORD1A), small nuclear RNA [NR_043847]   |
| A.33.P3401049  | -4.686 | -2.231 | 4.686 | linc-FGF10-3    | Homo sapiens SH3 domain binding glutamate rich protein linc (SH3BGRL), mRNA [NM_003022]   |
| A.21.P0012985  | -4.681 | -2.230 | 4.681 | LYRM9           | LINCpedia lincRNA, linc-FGF10-3, lincRNA [linc-FGF10-3]   |
| A.23.P302726   | -4.688 | -2.229 | 4.688 | EEF2K           | Homo sapiens eukaryotic elongation factor 2, kinase (EEF2K), mRNA [NM_001076880]  |
| A.33.P3342410  | -4.687 | -2.229 | 4.687 | SRGA3           | Homo sapiens SUT-ROBO Rho GTPase activating protein 3 (SRGAP3), transcript variant 1, mRNA [NM_014850]                              |
| A.23.P368410   | -4.687 | -2.229 | 4.687 | SRGA3           | Homo sapiens SUT-ROBO Rho GTPase activating protein 3 (SRGAP3), transcript variant 1, mRNA [NM_014850]                              |
| A.21.P0010700  | -4.678 | -2.226 | 4.678 | CCDC171         | Homo sapiens coiled-coil domain containing 171 (CCDC171), mRNA [NM_173650]  |
| A.32.P394879   | -4.673 | -2.224 | 4.673 | CARD6           | Homo sapiens caspase recruitment domain family, member 6 (CARD6), mRNA [NM_032557]  |
| A.33.P3340847  | -4.671 | -2.224 | 4.671 | MAP7D2          | Homo sapiens MAP7 domain containing 2 (MAP7D2), transcript variant 2, mRNA [NM_152780]  |
| A.24.P367645   | -4.670 | -2.223 | 4.670 | SNORD1A         | Homo sapiens small nuclear RNA, C/D box 1A (SNORD1A), small nuclear RNA [NR_043845]   |
| A.21.P0000466  | -4.665 | -2.222 | 4.665 | SNORD1A         | Homo sapiens small nuclear RNA, C/D box 1A (SNORD1A), small nuclear RNA [NR_043845]   |
| A.23.P375986   | -4.662 | -2.221 | 4.662 | STXB24          | Homo sapiens syntaxin binding protein 4 (STXB24), mRNA [NM_178599]  |
| A.33.P3421163  | -4.662 | -2.221 | 4.662 | TP53NP1         | Homo sapiens tumor protein p53 inducible nuclear protein 1 (TP53NP1), transcript variant 1, mRNA [NM_032816]                        |
| A.33.P3735158  | -4.654 | -2.219 | 4.654 | LOC228622       | Homo sapiens cDNA FLJ35885, clone SLE12019357, AK033394   |
| A.24.P007031   | -4.648 | -2.217 | 4.648 | ATP6AP1L        | Homo sapiens ATPase, H+ transporting, lysosomal accessory protein 1-like (ATP6AP1L), mRNA [NM_001019171]                            |
| A.23.P463309   | -4.648 | -2.217 | 4.648 | IFT88           | Homo sapiens intraflagellar transport 88 (IFT88), transcript variant 1, mRNA [NM_175605]  |
| A.33.P3812038  | -4.648 | -2.216 | 4.648 | LOC3348335      | Homo sapiens cDNA ELJ23819, clone LINCJ1343, JAG124459  |
| A.19.P00603226 | -4.644 | -2.215 | 4.644 | linc-TOPIIT-2   | PREDICED: Homo sapiens uncharacterized LOC10507316, transcript variant 2 (LOC10507316), miscRNA [NR_171757]                         |
| A.23.P2745     | -4.640 | -2.214 | 4.640 | GJB6            | Homo sapiens gap junction protein, beta 6, 30kDa (GJB6), transcript variant 2, mRNA [NM_006783]                                     |
| A.22.P00014165 | -4.628 | -2.211 | 4.628 | ARRGAP22        | Homo sapiens Rho GTPase activating protein 22 (ARRGAP22), transcript variant 3, mRNA [NM_021226]                                    |
| A.23.P78310    | -4.625 | -2.209 | 4.625 | TIME67          | Homo sapiens transmembrane protein 67 (TIME67), transcript variant 1, mRNA [NM_183704]  |
| A.23.P429581   | -4.623 | -2.209 | 4.623 | LINC00883       | Homo sapiens long intergenic non-protein coding RNA 938 (LINC00883), transcript variant 1, long non-coding RNA [NR_038273]          |
| A.21.P0000746  | -4.621 | -2.208 | 4.621 | FOLH1B          | Homo sapiens folate hydrolase 1B (FOLH1B), mRNA [NM_153998]   |
| A.32.P157391   | -4.620 | -2.208 | 4.620 | COL5A1          | Homo sapiens long intergenic non-protein coding RNA 938 (LINC00883), transcript variant 1, long non-coding RNA [NR_038273]          |
| A.33.P3262913  | -4.620 | -2.208 | 4.620 | PARK1           | Homo sapiens folate hydrolase 1B (FOLH1B), mRNA [NM_153998]   |
| A.33.P327288   | -4.619 | -2.208 | 4.619 | SEMA4B          | Homo sapiens semaphorin domain, immunoglobulin-like, transmembrane type 4, member 4 (SEMA4B), mRNA [NM_026210]                      |
| A.33.P3412016  | -4.618 | -2.207 | 4.618 | COL5A1          | Homo sapiens semaphorin domain, immunoglobulin-like, transmembrane type 4, member 4 (SEMA4B), mRNA [NM_026210]                      |
| A.33.P3377519  | -4.617 | -2.207 | 4.617 | COL5A1          | Homo sapiens semaphorin domain, immunoglobulin-like, transmembrane type 4, member 4 (SEMA4B), mRNA [NM_026210]                      |
| A.23.P38318    | -4.615 | -2.206 | 4.615 | KIZ             | Homo sapiens kolikaun centrosomal protein (KIZ), transcript variant 1, mRNA [NM_000803]   |
| A.22.P00017726 | -4.608 | -2.204 | 4.608 | FLRT2           | Homo sapiens fibronectin leucine rich transmembrane protein 2 (FLRT2), mRNA [NM_018274]   |
| A.22.P326235   | -4.606 | -2.204 | 4.606 | PYGO1           | Homo sapiens pygopus family PHD finger 1 (PYGO1), mRNA [NM_015617]  |
| A.33.P3782469  | -4.587 | -2.197 | 4.587 | LRRCT2          | Homo sapiens leucine rich repeat containing 27 (LRRCT2), transcript variant 4, mRNA [NM_001143750]                                  |
| A.33.P3304963  | -4.579 | -2.195 | 4.579 | FOS             | Homo sapiens FBJ murine osteosarcoma viral oncogene homolog (FOS), mRNA [NM_006232]   |
| A.23.P106184   | -4.578 | -2.195 | 4.578 | PLA2G4C         | Homo sapiens phospholipase A2, group IVC (cytosolic, calcium-independent) (PLA2G4C), transcript variant 1, mRNA [NM_003796]         |
| A.23.P56568    | -4.577 | -2.195 | 4.577 | OR7E1P          | LINCpedia lincRNA, linc-C8orf65-1, lincRNA [linc-C8orf65-1]   |
| A.22.P00003680 | -4.577 | -2.195 | 4.577 | OR7E1P          | Homo sapiens orfatory receptor, family 7, subfamily E, member 91 pseudogene (OR7E1P), non-coding RNA [NR_002169]                    |
| A.23.P433218   | -4.575 | -2.194 | 4.575 | VPS38           | Homo sapiens vesicular protein sorting 38 homolog (S. cerevisiae) (VPS38), transcript variant 3, mRNA [NM_001287189]                |
| A.33.P3674851  | -4.574 | -2.194 | 4.574 | linc-CHD1L-1    | LINCpedia lincRNA, linc-CHD1L-1, lincRNA [linc-CHD1L-1]   |
| A.21.P0000917  | -4.574 | -2.194 | 4.574 | LOC106607316    | Homo sapiens uncharacterized LOC106607316 (LOC106607316), transcript variant 2, long non-coding RNA [NR_126893]                     |
| A.33.P605283   | -4.572 | -2.193 | 4.572 | RSPH1           | Homo sapiens radial spoke head 1 homolog (Chlamydomonas) (RSPH1), transcript variant 1, mRNA [NM_008660]                            |
| A.33.P3434972  | -4.565 | -2.191 | 4.565 | NTM3            | Homo sapiens 5,3'-nucleotidase, mitochondrial (NTM3), mRNA [NM_020201]  |
| A.33.P3403714  | -4.561 | -2.189 | 4.561 | linc-UBXNM-2    | Homo sapiens FLJ28850, protein, FLJ28850, long non-coding RNA [NR_027257]   |
| A.22.P00017186 | -4.549 | -2.185 | 4.549 | linc-ANKRD34B-2 | LINCpedia lincRNA, linc-UBXNM-2, lincRNA [linc-UBXNM-2]   |
| A.22.P00019732 | -4.545 | -2.184 | 4.545 | linc-ANKRD34B-2 | LINCpedia lincRNA, linc-ANKRD34B-2, lincRNA [linc-ANKRD34B-2]   |

|                |      |        |        |                                  |   |
|----------------|------|--------|--------|----------------------------------|---|
| A.33.P3242879  | down | -4.536 | -2.181 | EFCAB6                           | Homo sapiens EF-hand calcium binding domain 6 (EFCAB6), transcript variant 1, mRNA [NM_022785]  |
| A.21.P0005614  | down | -4.532 | -2.180 | LINC00964                        | Homo sapiens long intergenic non-protein coding RNA 964 (LINC00964), long non-coding RNA [NR_027321]  |
| A.21.P0000702  | down | -4.531 | -2.180 | STX18-AS1                        | Homo sapiens STX18 antisense RNA 1 (head to head) (STX18-AS1), long non-coding RNA [NR_037888]  |
| A.23.P401008   | down | -4.524 | -2.178 | TTG39C                           | Homo sapiens tetranucleotide repeat domain 39C (TTG39C), transcript variant 2, mRNA [NM_159211]   |
| A.22.P00010519 | down | -4.521 | -2.177 | LOC101927172                     | PREDICTED: Homo sapiens uncharacterized LOC101927172 (LOC101927172), transcript variant X2, mRNA [XR_242411]  |
| A.33.P325652   | down | -4.521 | -2.177 | C12orf5                          | Homo sapiens chromosome 12 open reading frame 5 (C12orf5), mRNA [NM_020375]   |
| A.23.P141562   | down | -4.512 | -2.174 | ZNF675                           | Homo sapiens zinc finger protein 675 (ZNF675), transcript variant 1, mRNA [NM_145690]   |
| A.33.P341701   | down | -4.512 | -2.174 | ERAP1                            | Homo sapiens zinc finger protein 18 (ZNF18), transcript variant 1, mRNA [NM_014690]   |
| A.33.P333272   | down | -4.511 | -2.173 | NRARP                            | Homo sapiens nuclear respiratory factor 1 (NRARP), transcript variant 2, mRNA [NM_01004364]   |
| A.23.P251699   | down | -4.508 | -2.169 | PCOLCE                           | Homo sapiens NOTCH-regulated activator repeat protein (NRARP), mRNA [NM_01004364]   |
| A.32.P104063   | down | -4.493 | -2.168 | GRNDE                            | Homo sapiens collagen, C-endostadase enhancer (PCOLCE), mRNA [NM_002593]  |
| A.24.P298474   | down | -4.493 | -2.168 | TEMM2                            | Homo sapiens colorectal neoplasia differentially expressed (non-protein coding) (GRNDE), transcript variant 3, long non-coding RNA [NR_110453]      |
| A.32.P292159   | down | -4.490 | -2.167 | FAM171B                          | Homo sapiens tenascin transmembrane protein 2 (TEMN2), mRNA [NM_01122679]   |
| A.22.P00011377 | down | -4.490 | -2.167 | P2RY2                            | Homo sapiens tenascin transmembrane protein 2 (TEMN2), member B (FAM171B), mRNA [NM_174545]   |
| A.32.P46594    | down | -4.487 | -2.166 | LOC145837                        | Homo sapiens purinergic receptor P2Y, G-protein coupled, 2 (P2RY2), transcript variant 1, mRNA [NM_176072]  |
| A.24.P168124   | down | -4.484 | -2.165 | ZNF32-AS1                        | Homo sapiens uncharacterized LOC145837 (LOC145837), long non-coding RNA [NR_069797]   |
| A.24.P172447   | down | -4.474 | -2.161 | ENTPD7                           | Homo sapiens zinc finger protein 32 (ZNF32-AS1), long non-coding RNA [NR_047557]  |
| A.21.P0000172  | down | -4.473 | -2.161 | CSPG5                            | Homo sapiens ectonucleoside triphosphate diphosphohydrolase 7 (ENTPD7), mRNA [NM_020554]  |
| A.22.P00009265 | down | -4.469 | -2.160 | LRPAP1                           | Homo sapiens chondroitin sulfate proteoglycan 5 (neuroglycan C) (CSPG5), transcript variant 5, mRNA [NM_01208455]                                   |
| A.21.P0003999  | down | -4.468 | -2.160 | LOC257398                        | Homo sapiens low density lipoprotein receptor-related protein associated protein 1 (LRPAP1), transcript variant 1, mRNA [NM_006327]                 |
| A.24.P06780    | down | -4.468 | -2.160 | FAM83B                           | Homo sapiens uncharacterized LOC257398 (LOC257398), transcript variant 2, long non-coding RNA [NR_046654]   |
| A.33.P3242174  | down | -4.465 | -2.159 | ALMS1                            | Homo sapiens family with sequence similarity 83, member B (FAM83B), mRNA [NM_001010872]   |
| A.33.P324218   | down | -4.465 | -2.159 | ALMS1                            | Homo sapiens Alzheimers syndrome 1 (ALMS1), mRNA [NM_015120]  |
| A.23.P78742    | down | -4.459 | -2.157 | FL3LG                            | Homo sapiens tenascin transmembrane protein 2 (TEMN2), mRNA [NM_01122679]   |
| A.22.P0006233  | down | -4.457 | -2.156 | LINCpedia lincRNA (inc-FAM55B-1) | Homo sapiens lincRNA (inc-FAM55B-1), lincRNA [inc-FAM55B-1]   |
| A.33.P3210965  | down | -4.457 | -2.156 | TC1N1                            | Homo sapiens tectonic family member 1 (TC1N1), transcript variant 1, mRNA [NM_001082338]  |
| A.21.P0000747  | down | -4.454 | -2.155 | LOC100568895                     | Homo sapiens uncharacterized LOC100568895 (LOC100568895), long non-coding RNA [NR_038276]   |
| A.23.P33791    | down | -4.451 | -2.154 | SSBP2                            | Homo sapiens single-stranded DNA binding protein 2 (SSBP2), transcript variant 2, mRNA [NM_012446]  |
| A.33.P328982   | down | -4.449 | -2.154 | LINC00900                        | long intergenic non-protein coding RNA 900 [Source:HGNC Symbol;Acc:HGNC:27444]  |
| A.23.P78603    | down | -4.446 | -2.153 | VSTM2L                           | Homo sapiens V-set and transmembrane domain containing 2 like (VSTM2L), mRNA [NM_006307]  |
| A.23.P75430    | down | -4.443 | -2.151 | SMCO4                            | Homo sapiens V-set and transmembrane domain containing 2 like (VSTM2L), mRNA [NM_006307]  |
| A.21.P160368   | down | -4.432 | -2.148 | FM04                             | Homo sapiens flag-tag containing mesoepithelias 4 (FM04), mRNA [NM_020222]  |
| A.33.P3215864  | down | -4.425 | -2.146 | ROBT2                            | Homo sapiens cDNA FL37202.1c, clone BRAL2206824, [AC034521]   |
| A.23.P14105    | down | -4.425 | -2.146 | ROBT2                            | Homo sapiens repressor of chromosome condensation (ROCC1) and B1B (POZ) domain containing protein 2 (ROBT2), transcript variant 2, mRNA [NM_001268] |
| A.22.P00024666 | down | -4.423 | -2.145 | DSCAS                            | Homo sapiens DSC2 (DSC2) antisense RNA (DSCAS), long non-coding RNA [NR_110785]   |
| A.33.P337133   | down | -4.423 | -2.145 | TUBB8                            | Homo sapiens tubulin, beta 8, class VIII (TUBB8), mRNA [NM_177987]  |
| A.22.P0001829  | down | -4.422 | -2.145 | LOC100151584                     | Homo sapiens uncharacterized LOC100151584 (LOC100151584), long non-coding RNA [NR_034689]   |
| A.33.P2703837  | down | -4.421 | -2.144 | C1orf70                          | Homo sapiens cDNA FL38338.1c, clone FCBBF3026678, [AC095855]  |
| A.33.P333356   | down | -4.411 | -2.141 | C1orf70                          | Homo sapiens chromosome 11 open reading frame 70 (C1orf70), transcript variant 2, mRNA [NM_001195005]   |
| A.24.P7594     | down | -4.410 | -2.141 | APOL6                            | Homo sapiens apolipoprotein L 6 (APOL6), mRNA [NM_030641]   |
| A.33.P3283992  | down | -4.407 | -2.140 | ZNF671                           | Homo sapiens zinc finger protein 671 (ZNF671), mRNA [NM_024833]   |
| A.23.P140725   | down | -4.407 | -2.140 | JFT140                           | Homo sapiens intracellular transport 140 (JFT140), mRNA [NM_014714]   |
| A.33.P330228   | down | -4.406 | -2.140 | DUSL2                            | Homo sapiens DUS3 like 3-5, ecoribonuclease 2 (DUSL2), transcript variant 2, mRNA [NM_00252821]   |
| A.32.P232192   | down | -4.405 | -2.139 | ZNF396                           | Homo sapiens zinc finger protein 396 (ZNF396), transcript variant 1, mRNA [NM_0024210]  |
| A.23.P282182   | down | -4.405 | -2.139 | PDE7A                            | Homo sapiens GMP-specific cyclic nucleotide phosphodiesterase PDE7A3 mRNA, complete cds. [AF192852]   |
| A.24.P360529   | down | -4.403 | -2.139 | LAG1                             | Homo sapiens lagged 1 (LAG1), mRNA [NM_000214]  |
| A.23.P210763   | down | -4.401 | -2.138 | LCA5L                            | Homo sapiens Leber congenital amaurosis 5-like (LCA5L), mRNA [NM_152495]  |
| A.32.P48466    | down | -4.393 | -2.135 | inc-NAV3-1                       | LINGpedia lincRNA (inc-NAV3-1), lincRNA [inc-NAV3-1]  |
| A.21.P0007592  | down | -4.390 | -2.134 | GSEF3                            | Homo sapiens immunoglobulin superfamily, member 3 (GSEF3), transcript variant 1, mRNA [NM_001542]   |
| A.23.P126917   | down | -4.388 | -2.133 | SFPL3                            | Homo sapiens signal peptide peptidase like 3 (SFPL3), mRNA [NM_138015]  |
| A.24.P30567    | down | -4.387 | -2.132 | BIK                              | Homo sapiens BCL2-interacting killer (apoptosis-inducing) (BIK), mRNA [NM_001197]   |
| A.21.P0000913  | down | -4.385 | -2.132 | RORC                             | Homo sapiens RAR-related orphan receptor C (RORC), transcript variant 1, mRNA [NM_005060]   |
| A.23.P404667   | down | -4.382 | -2.131 | KIF7                             | Homo sapiens kizuna centrosomal protein (KIZ), transcript variant 1, mRNA [NM_019474]   |
| A.33.P338867   | down | -4.378 | -2.130 | SETBP1                           | Homo sapiens SET binding protein 1 (SETBP1), transcript variant 1, mRNA [NM_015559]   |
| A.23.P154740   | down | -4.376 | -2.129 | IQCH                             | Homo sapiens IQ motif containing H (IQCH), transcript variant 1, mRNA [NM_001031715]  |
| A.32.P324143   | down | -4.375 | -2.129 | SIPAL3                           | Homo sapiens signal-induced proliferation-associated 1 like 2 (SIPAL3), mRNA [NM_020808]  |
| A.24.P275965   | down | -4.375 | -2.129 | GFH3                             | Homo sapiens signal peptide peptidase like 3 (SFPL3), mRNA [NM_138015]  |
| A.33.P326359   | down | -4.354 | -2.122 | GDH4                             | Homo sapiens alpha-methylglutaryl-CoA reductase (AMACR), transcript variant 1, mRNA [NM_006510]   |
| A.33.P326359   | down | -4.350 | -2.121 | AMACR                            | Homo sapiens alpha-methylglutaryl-CoA reductase (AMACR), transcript variant 2, mRNA [NM_014324]   |
| A.33.P326359   | down | -4.348 | -2.120 | BLOC1S2                          | Homo sapiens BLOC1 complex subunit 2 (BLOC1S2), transcript variant 1, mRNA [NM_006510]  |
| A.24.P295543   | down | -4.343 | -2.119 | DUSP2                            | Homo sapiens dual specificity phosphatase 2 (DUSP2), mRNA [NM_004418]   |
| A.24.P37409    | down | -4.340 | -2.118 | LINC01215                        | Homo sapiens long intergenic non-protein coding RNA 1215 (LINC01215), transcript variant 1, long non-coding RNA [NR_110028]                         |
| A.19.P0008988  | down | -4.336 | -2.116 | CDNF                             | Homo sapiens cerebellar degeneration neurotrophic factor (CDNF), mRNA [NM_001029954]  |
| A.24.P93309    | down | -4.335 | -2.116 | inc-XPRI-1                       | LINGpedia lincRNA (inc-XPRI-1), lincRNA [inc-XPRI-1]  |
| A.21.P0001363  | down | -4.335 | -2.114 | ZNF882                           | Homo sapiens zinc finger protein 882 (ZNF882), transcript variant 1, mRNA [NM_033186]   |
| A.21.P28012    | down | -4.330 | -2.114 | ZNF882                           | Homo sapiens zinc finger protein 882 (ZNF882), transcript variant 1, mRNA [NM_033186]   |

|                |      |        |        |       |                |   |
|----------------|------|--------|--------|-------|----------------|---|
| A.33.P3421913  | down | -4.325 | -2.113 | 4.325 | CAOM1          | Homo sapiens cell adhesion molecule 1 (CAOM1), transcript variant 3, mRNA [NM.001301043]  |
| A.23.P235683   | down | -4.323 | -2.112 | 4.323 | MANEA          | Homo sapiens mannosidase, endo-alpha (MANEA), mRNA [NM.024641]  |
| A.24.P187827   | down | -4.317 | -2.110 | 4.317 |                | ofactory receptor, family 7, subfamily E, member 62, pseudogene [Source:HNC<br>Symbol:HGNC:8438] [ENST00000456741]  |
| A.33.P3959591  | down | -4.314 | -2.109 | 4.314 | PAPPA          | Homo sapiens pregnancy-associated plasma protein A, papalysin 1 (PAPPA), mRNA [NM.002581]   |
| A.33.P3981776  | down | -4.314 | -2.109 | 4.314 | TOLLIP-AS1     | Homo sapiens TOLLIP antisense RNA 1 (head to head) (TOLLIP-AS1), long non-coding RNA [NR.029409]  |
| A.33.P3322804  | down | -4.311 | -2.108 | 4.311 | NTRK2          | Homo sapiens neurotrophic tyrosine kinase, receptor, type 2 (NTRK2), transcript variant 1, mRNA [NM.001291937]  |
| A.23.P39005    | down | -4.306 | -2.107 | 4.306 | TAPI1          | Homo sapiens transporter 1, ATP-binding cassette, sub-family B (MDR/TAP) (TAP1), transcript variant 1, mRNA [NM.002953]   |
| A.24.P267148   | down | -4.303 | -2.105 | 4.303 | ARL19B5        | Homo sapiens Arp2/3 complex factor-like 6 interacting protein 5 (ARL19B5), mRNA [NM.006407]   |
| A.24.P207139   | down | -4.303 | -2.105 | 4.303 | PME            | Homo sapiens polyoma virus PTA-123333, transcript variant 1, mRNA [NM.032328]   |
| A.33.P321458   | down | -4.300 | -2.104 | 4.300 | ZNF204P        | Homo sapiens zinc finger protein 204, pseudogene (ZNF204P), transcript variant 1, non-coding RNA [NR.002722]  |
| A.21.P0012963  | down | -4.300 | -2.104 | 4.300 | LOC100506674   | Homo sapiens uncharacterized LOC100506674 (LOC100506674), transcript variant 1, long non-coding RNA [NR.109882]   |
| A.23.P39179    | down | -4.298 | -2.104 | 4.298 | P3H2           | Homo sapiens prolyl 3-hydroxylase 2 (P3H2), transcript variant 1, mRNA [NM.0018192]   |
| A.23.P238136   | down | -4.297 | -2.103 | 4.297 | MARA5          | Homo sapiens matrix-remodelling associated 5 (MARA5), mRNA [NM.015419]  |
| A.22.P00001124 | down | -4.297 | -2.103 | 4.297 | inc-ALX3-2     | G54H1 (DGD1) (G54H1) Lycopodium, marial (L06) [HG2868388]   |
| A.23.P212447   | down | -4.293 | -2.102 | 4.293 | IFT122         | Homo sapiens intraflagellar transport 122 (IFT122), transcript variant 3, mRNA [NM.0192872]   |
| A.33.P3313779  | down | -4.293 | -2.102 | 4.293 | CCO9B4         | Homo sapiens coiled-coil domain containing 64 (CCO9B4), mRNA [NM.020311]  |
| A.23.P292179   | down | -4.292 | -2.102 | 4.292 | ZNF671         | Homo sapiens zinc finger protein 671 (ZNF671), mRNA [NM.024833]   |
| A.24.P299685   | down | -4.286 | -2.100 | 4.286 | PDPN           | Homo sapiens podoplanin (PDPN), transcript variant 2, mRNA [NM.198398]  |
| A.33.P321898   | down | -4.285 | -2.099 | 4.285 | LOC288887      | Homo sapiens uncharacterized LOC288887, long non-coding RNA [NR.024011]   |
| A.23.P162238   | down | -4.285 | -2.099 | 4.285 | STIC           | Homo sapiens striatal (STIC), mRNA [NM.153709]  |
| A.23.P394986   | down | -4.284 | -2.099 | 4.284 | ORC5           | Homo sapiens cellular receptor of E1A-stimulated genes 2 (ORC5), mRNA [NM.153836]   |
| A.21.P0012520  | down | -4.283 | -2.099 | 4.283 | ALX3-2.14586   | transcript variant 1, mRNA [NM.0018192]   |
| A.22.P00018228 | down | -4.283 | -2.099 | 4.283 |                | transcript variant 1, mRNA [NM.0018192]   |
| A.22.P00006242 | down | -4.282 | -2.098 | 4.282 | FAM83B         | Homo sapiens family with sequence similarity 83, member B (FAM83B), mRNA [NM.0010872]   |
| A.22.P00008272 | down | -4.282 | -2.098 | 4.282 | CRNDE          | Homo sapiens coherensin represses differentially expressed (non-protein coding) (CRNDE), transcript variant 3, long non-coding RNA [NR.110453]                                    |
| A.22.P00200910 | down | -4.281 | -2.098 | 4.281 | LOC100507584   | Homo sapiens uncharacterized LOC100507584 (LOC100507584), long non-coding RNA [NR.038853]   |
| A.24.P044222   | down | -4.279 | -2.097 | 4.279 | TMC3           | Homo sapiens transmembrane and tetraacetylglutamate repeat containing 3 (TMC3), mRNA [NM.181763]  |
| A.23.P30243    | down | -4.278 | -2.097 | 4.278 | FRAP2          | Homo sapiens endoplasmic reticulum aminopeptidase 2 (FRAP2), transcript variant 1, mRNA [NM.022350]   |
| A.24.P118196   | down | -4.276 | -2.096 | 4.276 | GXYL12         | Homo sapiens glucosylidase xyloxytransferase 2 (GXYL12), mRNA [NM.001080393]  |
| A.33.P381655   | down | -4.266 | -2.093 | 4.266 | LOC101918911   | Homo sapiens uncharacterized LOC101918911 (LOC101918911), long non-coding RNA [NR.10104]  |
| A.32.P107483   | down | -4.257 | -2.090 | 4.257 | SPAT43         | Homo sapiens spermatogenesis associated 33 (Source:HGNC Symbol;Acc:HGNC:28463) [ENST00000201031]  |
| A.23.P133359   | down | -4.255 | -2.089 | 4.255 | ZFP2           | Homo sapiens ZFP2 zinc finger protein (ZFP2), mRNA [NM.0030613]   |
| A.21.P0013117  | down | -4.253 | -2.088 | 4.253 |                |   |
| A.22.P00001720 | down | -4.248 | -2.087 | 4.248 | HLA-DQB1       | Homo sapiens major histocompatibility complex, class II, DQ beta 1 (HLA-DQB1), transcript variant 2, mRNA [NM.001243601]  |
| A.33.P3217092  | down | -4.241 | -2.084 | 4.241 | PDOD4          | Homo sapiens protein of death 4 (neoplastic transformation inhibitor) (PDOD4), transcript variant 1, mRNA [NM.14584]  |
| A.23.P38435    | down | -4.241 | -2.084 | 4.241 | FOXN3          | Homo sapiens forkhead box N3 (FOXN3), transcript variant 2, mRNA [NM.005197]  |
| A.22.P00023617 | down | -4.240 | -2.084 | 4.240 | LINC01063      | PREDICI2: Homo sapiens long intergenic non-protein coding RNA 1063 (LINC01063), ncRNA [XR.248952]   |
| A.22.P00006065 | down | -4.236 | -2.083 | 4.236 | FAM68A         | Homo sapiens family with sequence similarity 68, member A (FAM68A), long non-coding RNA [NR.029789]   |
| A.22.P00016257 | down | -4.235 | -2.083 | 4.235 | LINC01065-1    | LINC01065 (inc-TMED5-1), lincRNA [inc-TMED5-1:27]   |
| A.21.P0013248  | down | -4.231 | -2.081 | 4.231 | FOXN3          | Homo sapiens forkhead box N3 (FOXN3), transcript variant 2, mRNA [NM.005197]  |
| A.23.P364792   | down | -4.229 | -2.080 | 4.229 | KCNMB4         | Homo sapiens potassium channel subfamily M regulatory beta subunit 4 (KCNMB4), mRNA [NM.014505]   |
| A.22.P00003349 | down | -4.225 | -2.079 | 4.225 | LINC00982      | Homo sapiens long intergenic non-protein coding RNA 882 (LINC00982), long non-coding RNA [NR.028303]  |
| A.23.P18892    | down | -4.224 | -2.079 | 4.224 | TP53NP1        | Homo sapiens tumor protein p53 inducible nuclear protein 1 (TP53NP1), transcript variant 1, mRNA [NM.032815]  |
| A.23.P235886   | down | -4.223 | -2.078 | 4.223 | NHNT           | Homo sapiens nephroblastoma (NHNT), transcript variant 2, mRNA [NM.001633047]   |
| A.24.P179585   | down | -4.221 | -2.078 | 4.221 | MARK1          | Homo sapiens MAP1 microtubule affinity-regulating kinase 1 (MARK1), transcript variant 2, mRNA [NM.002959]  |
| A.33.P3229477  | down | -4.217 | -2.076 | 4.217 | MPP7           | Homo sapiens membrane protein, palmitoylated 7 (MAGUK p35 sulfamyl member 7) (MPP7), mRNA [NM.173496]   |
| A.23.P115064   | down | -4.213 | -2.075 | 4.213 | CRABP2         | Homo sapiens cellular retinoic acid binding protein 2 (CRABP2), transcript variant 1, mRNA [NM.0018781]   |
| A.33.P3822486  | down | -4.213 | -2.075 | 4.213 | LOC100506844   | Homo sapiens uncharacterized LOC100506844 (LOC100506844), long non-coding RNA [NR.038269]   |
| A.33.P3806144  | down | -4.213 | -2.075 | 4.213 | LINC0476       | Homo sapiens long intergenic non-protein coding RNA 476 (LINC0476), transcript variant 1, long non-coding RNA [NR.023390]   |
| A.23.P2000719  | down | -4.212 | -2.074 | 4.212 | IQCG           | Homo sapiens IQ motif containing G (IQCG), transcript variant 1, mRNA [NM.022263]   |
| A.33.P2828219  | down | -4.204 | -2.072 | 4.204 | AHR            | Homo sapiens cDNA FL45884.1a, clone FCBBF3005160, [AK147593]  |
| A.23.P215566   | down | -4.199 | -2.070 | 4.199 | AHR            | Homo sapiens aryl hydrocarbon receptor (AHR), mRNA [NM.001621]  |
| A.22.P00004819 | down | -4.196 | -2.069 | 4.196 | DCUN1D5        | Homo sapiens DCN1, defective in cullin neddylation 1, domain containing 5 (DCUN1D5), mRNA [NM.029298]   |
| A.23.P350574   | down | -4.191 | -2.067 | 4.191 | FOLEB          | Homo sapiens Fc receptor-like B (FOLEB), transcript variant 1, mRNA [NM.001029201]  |
| A.23.P142714   | down | -4.189 | -2.067 | 4.189 | SLC25A12       | Homo sapiens solute carrier family 25 (aspartate/glutamate carrier), member 12 (SLC25A12), transcript variant 1, mRNA [NM.003705]   |
| A.23.P38830    | down | -4.179 | -2.063 | 4.179 | ZNF552         | Homo sapiens zinc finger protein 552 (ZNF552), mRNA [NM.024792]   |
| A.21.P0003651  | down | -4.173 | -2.061 | 4.173 | inc-RAP10D51-3 | LINC01065 (inc-P49353-3), lincRNA [inc-P49353-3:1]  |
| A.33.P32509653 | down | -4.165 | -2.058 | 4.165 | SLC35B4        | Homo sapiens solute carrier family 35 (UDP-yucose UDP-N4-acetylglucosamine transporter), member 4 (SLC35B4), mRNA [NM.0292826]  |
| A.33.P3300747  | down | -4.164 | -2.058 | 4.164 | ADH4E1         | Homo sapiens alcohol dehydrogenase, iron containing 1 (ADH4E1), mRNA [NM.144650]  |
| A.33.P3697350  | down | -4.159 | -2.056 | 4.159 | SEMA4D         | Homo sapiens sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (Semaphorin) 4D (SEMA4D), transcript variant 2, mRNA [NM.001142287] |
| A.23.P346093   | down | -4.158 | -2.056 | 4.158 | TMC8           | Homo sapiens transmembrane channel-like 8 (TMC8), mRNA [NM.152468]  |

|                |        |        |       |      |              |   |
|----------------|--------|--------|-------|------|--------------|---|
| A.21_P0060276  | -4.154 | -2.085 | 4.154 | down | LINC00702    | long intergenic non-protein coding RNA 702 [Source:HGNC Symbol;Acc:HGNC:44676] [ENS:00000418372]  |
| A.33_P3402419  | -4.152 | -2.084 | 4.152 | down |              | W46 A Chain A. The 2.5 Angstrom Structure Of The K Iba Mutant Of Arniekin A8 Which Has An Inact N-Terminal [Home sapiens] (cgs-1, wgs-9, cgs-6), partial. (9%) [HG02641895] |
| A.22_P00012923 | -4.151 | -2.084 | 4.151 | down | LOC102724601 | Home sapiens uncharacterized LOC102724601 [LOC102724601], long non-coding RNA [NR 121197]   |
| A.33_P329454   | -4.151 | -2.083 | 4.151 | down | TG           | Home sapiens thyroglobulin (TG), mRNA [NM 003295]   |
| A.33_P3422289  | -4.149 | -2.083 | 4.149 | down | INC-TMED5-1  | Home sapiens lincRNA (inc-TMED5-1), lincRNA [inc-TMED5-1]   |
| A.33_P3295028  | -4.148 | -2.082 | 4.148 | down | TROM24       | Transcript motif containing 24 [Source:HGNC Symbol;Acc:HGNC:11812] [ENS:00000345296]  |
| A.23_P2351359  | -4.145 | -2.082 | 4.145 | down | POR3         | Home sapiens porosomins 3 (POR3), mRNA [NM 000940]  |
| A.23_P260239   | -4.145 | -2.081 | 4.145 | down | PICARD       | Home sapiens P19 and GARP domain containing (PICARD), transcript variant 1, mRNA [NM 015258]  |
| A.24_P146351   | -4.144 | -2.081 | 4.144 | down | WFSB         | Home sapiens WFSB brain isoform 2 (WFSB), mRNA [NM 001042611]   |
| A.23_P146351   | -4.144 | -2.081 | 4.144 | down | WFSB2        | Home sapiens WFSB brain isoform 2 (WFSB2), mRNA [NM 001042611]  |
| A.24_P1279489  | -4.144 | -2.081 | 4.144 | down | VP553        | Home sapiens nuclear protein sorting 55 homolog (S. cerevisiae) (VP553), transcript variant 1, mRNA [NM 001128159]  |
| A.23_P156402   | -4.143 | -2.081 | 4.143 | down | NME5         | Home sapiens NME5 family member 5 (NME5), mRNA [NM 003951]  |
| A.24_P406754   | -4.142 | -2.080 | 4.142 | down | LOXL4        | Home sapiens lysyl oxidase-like 4 (LOXL4), mRNA [NM 032211]   |
| A.24_P30216    | -4.140 | -2.080 | 4.140 | down | LGR4         | Home sapiens leucine-rich repeat containing G protein-coupled receptor 4 (LGR4), mRNA [NM 018490]   |
| A.33_P3256817  | -4.140 | -2.080 | 4.140 | down | PLIN2        | perilipin 2 [Source:HGNC Symbol;Acc:HGNC:248] [ENS:00000380464]   |
| A.21_P0012794  | -4.137 | -2.049 | 4.137 | down |              | G5SY11 HUMAN G5SY11 Collagen, type V, alpha 1, partial. (9%) [HG02692746]   |
| A.33_P3289561  | -4.134 | -2.048 | 4.134 | down | MACROD2      | Home sapiens MACRO domain containing 2 (MACROD2), transcript variant 1, mRNA [NM 080676]  |
| A.32_P389352   | -4.131 | -2.047 | 4.131 | down | inc-HSPB6-1  | Home sapiens mRNA cDNA DKF76494J1912 (from clone DKF76494J1912), AL137752   |
| A.22_P00024845 | -4.124 | -2.044 | 4.124 | down | inc-KLHL31-2 | LINCpedia lincRNA (inc-KLHL31-2), lincRNA [inc-KLHL31-2]  |
| A.21_P0005030  | -4.120 | -2.044 | 4.120 | down | SMAD1        | Home sapiens SMAD family member 1 (SMAD1), transcript variant 1, mRNA [NM 009600]   |
| A.24_P171938   | -4.119 | -2.042 | 4.119 | down | CTP21        | Home sapiens chromosome 1 open reading frame 21 (CTP21), transcript variant 1, mRNA [NM 038966]   |
| A.24_P171754   | -4.117 | -2.042 | 4.117 | down | INFA         | Home sapiens nuclear factor kappa B (NF-kappa B), transcript variant 2, mRNA [NM 038966]  |
| A.23_P38662    | -4.117 | -2.042 | 4.117 | down | COL7A1       | Home sapiens collagen, type XVII, alpha 1, mRNA (cDNA clone IMAGE3951913), partial cds. [BC027466]  |
| A.33_P3419168  | -4.116 | -2.041 | 4.116 | down | TCEA3        | Home sapiens transcription elongation factor A (SIB 3) (TCEA3), mRNA [NM 003196]  |
| A.23_P24375    | -4.115 | -2.041 | 4.115 | down | DNM3         | Home sapiens somatic cell carcinoma-related protein 1, mRNA, complete cds. [AF 383068]  |
| A.24_P36519    | -4.111 | -2.039 | 4.111 | down | SALM1.6      | Home sapiens salmodulin-like 6 (SALM1.6), mRNA [NM 015569]  |
| A.23_P321268   | -4.110 | -2.039 | 4.110 | down |              | Home sapiens domain 3 (DNM3), transcript variant 1, mRNA [NM 015569]  |
| A.23_P302588   | -4.104 | -2.037 | 4.104 | down | SEIPINB3     | Home sapiens seipin peptidase inhibitor, clone B (ovalbumin), member 3 (SEIPINB3), mRNA [NM 008919]   |
| A.23_P5662     | -4.103 | -2.037 | 4.103 | down |              |   |
| A.21_P0001106  | -4.101 | -2.036 | 4.101 | down | inc-RNF149-2 | Home sapiens cDNA FLJ38224, fig. clone THYLZ000090 [AK093543]   |
| A.22_P00023324 | -4.100 | -2.036 | 4.100 | down | CTSF         | Home sapiens cathepsin F (CTSF), mRNA [NM 009793]   |
| A.23_P24483    | -4.096 | -2.034 | 4.096 | down | RAB40B       | Home sapiens RAB40B, member RAS oncogene family (RAB40B), mRNA [NM 008692]  |
| A.23_P124801   | -4.096 | -2.034 | 4.096 | down | inc-RPS27A-1 | LINCpedia lincRNA (inc-RPS27A-1), lincRNA [inc-RPS27A-1]  |
| A.22_P00013911 | -4.093 | -2.033 | 4.093 | down | TRIM9        | Home sapiens tripartite motif containing 29 (TRIM9), mRNA [NM 012101]   |
| A.23_P203267   | -4.091 | -2.032 | 4.091 | down | PDLIM1       | Home sapiens PDZ and LIM domain 1 (PDLIM1), mRNA [NM 020992]  |
| A.23_P149182   | -4.089 | -2.032 | 4.089 | down | COL21A1      | Home sapiens collagen, type XXVII, alpha 1 (COL21A1), mRNA [NM 038288]  |
| A.23_P130586   | -4.087 | -2.031 | 4.087 | down | ANKRD31B     | Home sapiens ankyrin repeat domain 31B (ANKRD31B), mRNA [NM 00104440]   |
| A.19_P00030385 | -4.087 | -2.031 | 4.087 | down | inc-TRAF2-1  | A178899 chr20 home sapiens cDNA clone Z178899, partial cds. [AF 178899]   |
| A.23_P130586   | -4.086 | -2.031 | 4.086 | down | TRAF2        | Home sapiens TNF domain containing 2 (TRAF2), mRNA [NM 00104440]  |
| A.33_P3408077  | -4.084 | -2.030 | 4.084 | down | TEB2D2       | Home sapiens TEB2 domain containing 2 (TEB2D2), transcript variant 2, lincRNA [NM 152700]   |
|                | -4.082 | -2.029 | 4.082 | down | KB1B03       | Home sapiens Kbt1b repeat and B1B (POZ) domain containing 3 (KB1B03), transcript variant 2, mRNA [NM 148439]  |
| A.33_P3811423  | -4.081 | -2.029 | 4.081 | down | LINC00508844 | Home sapiens uncharacterized LOC100508844 [LOC100508844], long non-coding RNA [NR 032669]   |
| A.23_P73150    | -4.071 | -2.025 | 4.071 | down | LOC10295     | Home sapiens tetraucleotide repeat domain 25 (T10295), transcript variant 1, mRNA [NM 031421]   |
| A.33_P3247175  | -4.070 | -2.025 | 4.070 | down | C4orf47      | Home sapiens chromosome 4 open reading frame 47 (C4orf47), mRNA [NM 00114357]   |
| A.23_P390172   | -4.070 | -2.025 | 4.070 | down | RNASEL       | Home sapiens ribonuclease L (2'-5'-oligoadenylate synthetase-dependent) (RNASEL), mRNA [NM 021133]  |
| A.22_P00000575 | -4.067 | -2.024 | 4.067 | down | ORAI3        | Home sapiens ORAI calcium release-activated calcium modulator 3 (ORAI3), mRNA [NM 152288]   |
| A.21_P0014359  | -4.059 | -2.021 | 4.059 | down |              | AGNCOURT BR42289 Lupak, isotonic nerve Home sapiens cDNA clone IMAGE 6204306 5', mRNA sequence. [BC0344520]   |
| A.23_P380951   | -4.058 | -2.021 | 4.058 | down | ZNF420       | Home sapiens zinc finger protein 420 (ZNF420), mRNA [NM 144689]   |
| A.22_P00017805 | -4.055 | -2.020 | 4.055 | down | inc-ZBTB25-1 | Home sapiens cDNA FLJ40004, fig. clone STOM2004194 [AK097323]   |
| A.33_P3202741  | -4.055 | -2.020 | 4.055 | down | KATNAL2      | Home sapiens katenin p80 subunit A-like 2 (KATNAL2), mRNA [NM 031303]   |
| A.24_P3674     | -4.055 | -2.020 | 4.055 | down | MDP31        | Home sapiens MD repeat domain 31 (MDP31), transcript variant 1, mRNA [NM 00102281]  |
| A.23_P213847   | -4.048 | -2.017 | 4.048 | down | RR15         | Home sapiens repeat 5, type 1 (RR15), mRNA [NM 002424]  |
| A.23_P130586   | -4.048 | -2.017 | 4.048 | down | inc-TRAF2    | Home sapiens ankyrin repeat domain 31B (ANKRD31B), mRNA [NM 00104440]   |
| A.23_P73693    | -4.045 | -2.015 | 4.045 | down | CGC3176      | Home sapiens chromosome 31, transcript variant 2 (CGC3176), mRNA [NM 026357]  |
| A.23_P36554    | -4.044 | -2.015 | 4.044 | down | PLC2.2       | Home sapiens phospholipase C-like 2 (PLC2), transcript variant 2, mRNA [NM 015184]  |
| A.21_P0008157  | -4.039 | -2.014 | 4.039 | down | PIE          | Home sapiens actin (non-binding nuclear protein) (PIE), transcript variant 1, mRNA [NM 003862]  |
| A.23_P137058   | -4.038 | -2.014 | 4.038 | down | C21orf62-AS1 | Home sapiens C21orf62 antisense RNA 1 (C21orf62-AS1), transcript variant 1, long non-coding RNA [NR 0246222]  |
| A.24_P395922   | -4.035 | -2.013 | 4.035 | down | SVT12        | Home sapiens synaptotagmin XII (SVT12), transcript variant 1, mRNA [NM 177963]  |
| A.23_P421306   | -4.034 | -2.012 | 4.034 | down | TNK          | Home sapiens TRAF2 and NCK interacting kinase (TNK), transcript variant 9, non-coding RNA [NR 027767]   |
| A.21_P0000647  | -4.034 | -2.012 | 4.034 | down |              | inducible T-cell co-stimulator ligand [Source:HGNC Symbol;Acc:HGNC:7087] [ENS:00000407700] [NM 001166999]   |
| A.23_P186298   | -4.032 | -2.011 | 4.032 | down | PDE4D        | Home sapiens phosphodiesterase 4D, cAMP-specific (PDE4D), transcript variant 3, mRNA [NM 001166999]   |
| A.33_P3388653  | -4.029 | -2.010 | 4.029 | down | EID1         | Home sapiens EP300 interacting, inhibitor of differentiation 1 (EID1), mRNA [NM 014339]   |
| A.33_P3309854  | -4.029 | -2.010 | 4.029 | down |              | Home sapiens EP300 interacting, inhibitor of differentiation 1 (EID1), mRNA [NM 014339] [NR 047499]   |
| A.21_P0001290  | -4.028 | -2.010 | 4.028 | down | LINC009853   | Home sapiens long intergenic non-protein coding RNA 853 (LINC009853), long non-coding RNA [NR 047499]   |
| A.23_P18115    | -4.024 | -2.009 | 4.024 | down | GSP72        | Home sapiens G1 to S phase transition 2 (GSP72), mRNA [NM 015996]   |
| A.23_P130586   | -4.022 | -2.009 | 4.022 | down | ZNF439       | Home sapiens zinc finger protein 439 (ZNF439), mRNA [NM 152629]   |
| A.33_P3202741  | -4.020 | -2.007 | 4.020 | down | TEPML        | Home sapiens tepeleukin-like 1 (TEPML), transcript variant 1, mRNA [NM 00102281]  |
| A.24_P303328   | -4.014 | -2.005 | 4.014 | down | YRCC6B       | Home sapiens YRCC6B binding protein 1 (YRCC6B), mRNA [NM 032726]  |
| A.23_P38193    | -4.014 | -2.005 | 4.014 | down | YRCC6B1      | Home sapiens YRCC6B binding protein 1 (YRCC6B1), mRNA [NM 032726]   |
| A.23_P269328   | -4.014 | -2.005 | 4.014 | down | PLIN2        | Home sapiens perilipin 2 (PLIN2), transcript variant 1, mRNA [NM 001122]  |
| A.23_P134653   | -4.011 | -2.004 | 4.011 | down | TEMA4        | Home sapiens tetraspanin transmembrane protein 4 (TEMA4), mRNA [NM 00108816]  |
| A.24_P342312   | -4.009 | -2.003 | 4.009 | down | CAPNS2       | Home sapiens tetraspanin transmembrane protein 4 (TEMA4), mRNA [NM 00108816]  |
| A.23_P152406   | -4.007 | -2.003 | 4.007 | down |              | Home sapiens calpains, small subunit 2 (CAPNS2), mRNA [NM 032330]   |



|                |        |        |       |                  |   |
|----------------|--------|--------|-------|------------------|---|
| A.21.P128425   | -3.863 | -1.960 | 3.863 | TSNAXIP1         | Homo sapiens translin-associated factor X interacting protein 1 (TSNAXIP1), transcript variant 2, mRNA [NM_018430]          |
| A.21.P0013365  | -3.863 | -1.950 | 3.863 | ZNF815P          | Homo sapiens zinc finger protein 815, pseudogene (ZNF815P), non-coding RNA [NR_023882]                                      |
| A.23.P29830    | -3.862 | -1.950 | 3.862 | CBLB             | Homo sapiens Cbl proto-oncogene B, E3 ubiquitin protein ligase (CBLB), mRNA [NM_170882]                                     |
| A.21.P0014086  | -3.862 | -1.940 | 3.862 |                  | BX 02845 Soares, multiple adenosine 2'OH-MSP. Homo sapiens cDNA clone IMAGc99803843, mRNA sequence [BX_02845]               |
| A.33.P292826   | -3.861 | -1.949 | 3.861 | ZNF775           | Homo sapiens zinc finger protein 775 (ZNF775), mRNA [NM_173690]   |
| A.32.P850582   | -3.853 | -1.946 | 3.853 | ZNF337-AS1       | Homo sapiens ZNF337 antisense RNA 1 (ZNF337-AS1), transcript variant 2, long non-coding RNA [NR_126466]                     |
| A.23.P29939    | -3.852 | -1.946 | 3.852 | SNCA             | Homo sapiens synuclein, alpha (non M component of amyloid precursor) (SNCA), transcript variant 4, mRNA [NM_007018]         |
| A.22.P0002656  | -3.852 | -1.946 | 3.852 | inc-ACPA72-2     | LOC100502323.1-1, lincRNA [inc-ACPA72-2]  |
| A.23.P70682    | -3.848 | -1.944 | 3.848 | MAK              | LOC100502323.1-1, lincRNA [inc-ACPA72-2]  |
| A.23.P24616    | -3.844 | -1.943 | 3.844 | SIAS             | Homo sapiens salivary acid sialyltransferase (SIAS), transcript variant 1, mRNA [NM_170661]                                 |
| A.23.P56907    | -3.843 | -1.942 | 3.843 | ITGA5            | Homo sapiens integrin, alpha V (ITGA5), transcript variant 1, mRNA [NM_0102210]   |
| A.23.P240403   | -3.842 | -1.942 | 3.842 | GBP3             | Homo sapiens guanylate binding protein 3 (GBP3), mRNA [NM_018284]   |
| A.33.P240403   | -3.841 | -1.941 | 3.841 | inc-AC005323.1-1 | LOC100502323.1-1, lincRNA [inc-AC005323.1-1]  |
| A.33.P240403   | -3.840 | -1.941 | 3.840 | UCN              | Homo sapiens urocorin (UCN), mRNA [NM_003853]   |
| A.23.P27670    | -3.837 | -1.940 | 3.837 | C1orf79          | Homo sapiens chromosome 14 open reading frame 79 (C1orf79), mRNA [NM_174881]  |
| A.33.P812270   | -3.836 | -1.940 | 3.836 | LOC100508844     | Homo sapiens uncharacterized LOC100508844 (LOC100508844), long non-coding RNA [NR_038269]                                   |
| A.23.P376038   | -3.835 | -1.939 | 3.835 | EXD1             | Homo sapiens exonuclease 3'-5' domain containing 1 (EXD1), transcript variant 2, mRNA [NM_152956]                           |
| A.24.P294369   | -3.835 | -1.939 | 3.835 | TYMSOS           | Homo sapiens TYMS opposite strand (TYMSOS), mRNA [NM_001021716]   |
| A.23.P29255    | -3.835 | -1.939 | 3.835 | SYK              | Homo sapiens spleen tyrosine kinase (SYK), transcript variant 1, mRNA [NM_003177]   |
| A.21.P0012569  | -3.832 | -1.938 | 3.832 |                  | offcopy receptor, family 7, subfamily E, member 117 pseudogene [SourceHGNC Symbol:HGNC:15033] [ENS:000042882]               |
| A.21.P0003446  | -3.831 | -1.938 | 3.831 | FLJ38777         | uncharacterized LOC708971 [Source:Ensembl:Gene:208971] [ENS:0000594402]   |
| A.24.P702813   | -3.831 | -1.938 | 3.831 | XPRI             | Homo sapiens xenotropic and polytropic retrovirus receptor 1 (XPRI), transcript variant 1, mRNA [NM_004736]                 |
| A.19.P0013654  | -3.829 | -1.938 | 3.829 | CTNH-AS1         | Homo sapiens CTNH antisense RNA 1 (CTNH-AS1), long non-coding RNA [NR_021021]   |
| A.33.P2726793  | -3.827 | -1.936 | 3.827 | FAM115B          | Homo sapiens family with sequence similarity 151, member B (FAM115B), mRNA [NM_205548]                                      |
| A.33.P2301965  | -3.825 | -1.935 | 3.825 | PEFA1            | Homo sapiens phosphodiesterase 7A, PDE7A, transcript variant 3, mRNA [NM_001242318]   |
| A.23.P133238   | -3.823 | -1.935 | 3.823 | PCDH14           | Homo sapiens protocadherin beta 14 (PCDH14), mRNA [NM_018934]   |
| A.23.P201195   | -3.822 | -1.934 | 3.822 | VAV3             | Homo sapiens vav 3 guanine nucleotide exchange factor (VAV3), transcript variant 1, mRNA [NM_006113]                        |
| A.33.P3360917  | -3.821 | -1.934 | 3.821 | IPV9             | Homo sapiens importin 9 (IPV9), mRNA [NM_018085]  |
| A.24.P297351   | -3.821 | -1.934 | 3.821 | FAM19A2          | Homo sapiens family with sequence similarity 19 (chemokine (C-C motif)-like), member A2 (FAM19A2), mRNA [NM_178159]         |
| A.23.P295984   | -3.820 | -1.933 | 3.820 | GALC             | Homo sapiens galactosylceramidase (GALC), transcript variant 1, mRNA [NM_000153]  |
| A.23.P468711   | -3.812 | -1.931 | 3.812 | C1orf159         | Homo sapiens chromosome 14 open reading frame 159 (C1orf159), transcript variant 3, mRNA [NM_024952]                        |
| A.23.P77714    | -3.809 | -1.929 | 3.809 | CULPAP1          | Homo sapiens chlamydomonas associated protein 1 (CULPAP1), transcript variant 2, mRNA [NM_024793]                           |
| A.21.P0014682  | -3.807 | -1.928 | 3.807 | LOC100507395     | PREDICTED: Homo sapiens uncharacterized LOC100507395 (LOC100507395), mRNA [XR_424061]                                       |
| A.22.P00001349 | -3.802 | -1.927 | 3.802 | LINC000687       | Homo sapiens long intergenic non-protein coding RNA 607 (LINC000687), long non-coding RNA [NR_019398]                       |
| A.33.P2432649  | -3.802 | -1.927 | 3.802 | GRX2             | Homo sapiens glutathione S-transferase 2 (GRX2), transcript variant 1, mRNA [NM_005189]                                     |
| A.23.P217126   | -3.800 | -1.926 | 3.800 | PRKX             | Homo sapiens protein kinase X (PRKX), mRNA [NM_025044]  |
| A.33.P2432177  | -3.797 | -1.925 | 3.797 | ZNF37A           | Homo sapiens zinc finger protein 37A (ZNF37A), transcript variant 1, mRNA [NM_001007094]                                    |
| A.33.P2410584  | -3.796 | -1.924 | 3.796 |                  | Homo sapiens cDNA FL2208 fs, clone REC68884, RAG0578031   |
| A.23.P49530    | -3.793 | -1.923 | 3.793 | MTERF2           | Homo sapiens mitochondrial transcription termination factor 2 (MTERF2), transcript variant 1, mRNA [NM_001033050]           |
| A.33.P3663206  | -3.792 | -1.923 | 3.792 | SEK1             | Homo sapiens SH2 domain binding kinase 1 (SEK1), mRNA [NM_001024401]  |
| A.23.P2006501  | -3.786 | -1.921 | 3.786 | CLEC18B          | Homo sapiens C-type lectin domain family 18, member B (CLEC18B), mRNA [NM_001011880]  |
| A.23.P156857   | -3.784 | -1.920 | 3.784 | NUDT6            | Homo sapiens nudix (nucleoside diphosphate linked moiety X)-type motif 6 (NUDT6), transcript variant 2, mRNA [NM_149041]    |
| A.24.P391574   | -3.780 | -1.918 | 3.780 | LDLRAD3          | low density lipoprotein receptor class A domain containing 3 [Source:HGNC Symbol:Acc:HGNC:27046] [ENS:00000315371]          |
| A.32.P39434    | -3.779 | -1.918 | 3.779 | ZNF812           | Homo sapiens zinc finger protein 812 (ZNF812), mRNA [NM_001198614]  |
| A.23.P111381   | -3.777 | -1.917 | 3.777 | PP1L6            | Homo sapiens peptidylglycyloisomerase (prolylamin)-like 6 (PP1L6), transcript variant 1, mRNA [NM_178672]                   |
| A.23.P065088   | -3.775 | -1.917 | 3.775 | ANKK1            | ankyrin repeat and EF-hand domain containing 1 [Source:HGNC Symbol:Acc:HGNC:16063] [ENS:0000037482]                         |
| A.31.P0030468  | -3.773 | -1.916 | 3.773 | MGP              | Homo sapiens matrix Gla protein (MGP), transcript variant 1, mRNA [NM_001190289]  |
| A.23.P2361658  | -3.771 | -1.915 | 3.771 | FERD4A           | Homo sapiens FERM domain containing 4A (FERD4A), mRNA [NM_0131027]  |
| A.24.P242321   | -3.770 | -1.914 | 3.770 | ZKSCAN7          | Homo sapiens zinc finger with RRAB and SCAN domains 7 (ZKSCAN7), transcript variant 1, mRNA [NM_0186511]                    |
| A.23.P253921   | -3.769 | -1.914 | 3.769 | KCNJ15           | Homo sapiens potassium channel, inwardly rectifying subfamily 4, member 15 (KCNJ15), transcript variant 1, mRNA [NM_170736] |
| A.33.P267532   | -3.767 | -1.913 | 3.767 | inc-TRIM1-3      | LOC101929761  |
| A.21.P0009151  | -3.767 | -1.913 | 3.767 | BAAPP2-AS1       | PREDICTED: Homo sapiens uncharacterized LOC101929761 (LOC101929761), transcript variant 2, mRNA [XR_429492]                 |
| A.33.P8089500  | -3.765 | -1.913 | 3.765 | LOC100508844     | LOC100508844  |
| A.33.P2323822  | -3.761 | -1.911 | 3.761 | GATAD2B          | Homo sapiens GATA zinc finger domain containing 2B (GATAD2B), mRNA [NM_020599]  |
| A.33.P242659   | -3.756 | -1.909 | 3.756 | GDAP1            | Homo sapiens ganglioside induced differentiation associated protein 1 (GDAP1), transcript variant 1, mRNA [NM_018972]       |
| A.22.P00008083 | -3.756 | -1.909 | 3.756 | LOC101929761     | PREDICTED: Homo sapiens uncharacterized LOC101929761 (LOC101929761), transcript variant 2, mRNA [XR_429492]                 |
| A.22.P0016779  | -3.756 | -1.909 | 3.756 | inc-TRIM1-3      | LINC01929761  |
| A.33.P285156   | -3.752 | -1.908 | 3.752 | BAAPP2-AS1       | Homo sapiens BAAPP2 antisense RNA 1 (head to head) (BAAPP2-AS1), long non-coding RNA [NR_024857]                            |
| A.24.P107637   | -3.750 | -1.907 | 3.750 | DSRB             | Homo sapiens phosphodiesterase 9B (DSRB), transcript variant 1, mRNA [NM_003119]  |
| A.23.P242697   | -3.748 | -1.905 | 3.748 | ZNF24210         | Homo sapiens zinc finger protein 24210 (ZNF24210), mRNA [NM_001023232]  |
| A.33.P2324089  | -3.745 | -1.905 | 3.745 | IFITM1           | Homo sapiens interferon 1 (IFITM1), transcript variant 1, mRNA [NM_00104055]  |
| A.33.P2881656  | -3.744 | -1.904 | 3.744 | LOC100806405     | PREDICTED: Homo sapiens uncharacterized LOC100806405 (LOC100806405), mRNA [XM_003846604]                                    |
| A.21.P0014093  | -3.741 | -1.904 | 3.741 | CHKE-AS1         | Homo sapiens uncharacterized LOC101927482 (LOC101927482), transcript variant 1, long non-coding RNA [NR_110225]             |
| A.21.P0010469  | -3.738 | -1.902 | 3.738 | CHKE-AS1         | Homo sapiens CHKE antisense RNA 1 (head to head) (CHKE-AS1), transcript variant 1, long non-coding RNA [NR_110539]          |

|                |      |        |        |                |  |
|----------------|------|--------|--------|----------------|--|
| A.21.P0012785  | down | -3.736 | -1.901 | inc-CQ125A1-1  | Homo sapiens cDNA FLJ25407, fig. clone TS102904, [AK036136]  |
| A.23.P212756   | down | -3.735 | -1.901 | GRK4           | Homo sapiens G protein-coupled receptor kinase 4, [GRK4], transcript variant 3, mRNA [NM_001004057]  |
| A.24.P303145   | down | -3.733 | -1.900 | ANKK1          | Homo sapiens ANK1 inorganic pyrophosphatase transport regulator, [ANKK1], mRNA [NM_054027]   |
| A.22.P0002482  | down | -3.733 | -1.900 | GDH-P1         | Homo sapiens glucose dehydrogenase 1, [Source:HGNC Symbol;Acc:HGNC:94360] [ENS:00000558017]  |
| A.24.P48177    | down | -3.732 | -1.900 | STGAL2         | Homo sapiens ST3 beta-galactoside alpha-2-3-sialyltransferase 2, [STGAL2], mRNA [NM_008927]  |
| A.24.P273759   | down | -3.731 | -1.900 | LRRRC73        | Homo sapiens leucine rich repeat containing 73, [LRRRC73], transcript variant 1, mRNA [NM_001023292]   |
| A.23.P44546    | down | -3.731 | -1.900 | DFFB           | Homo sapiens DNA fragmentation factor, 400Da, beta polypeptide (caspase-activated DNase), [DFFB], transcript variant 1, mRNA [NM_001262089]                        |
| A.24.P35357    | down | -3.730 | -1.899 | FIG3           | Homo sapiens FIG3 inositol(1,3,4,5)-tetrakisphosphate 3-kinase, [FIG3], transcript variant 1, mRNA [NM_024557]   |
| A.23.P33127    | down | -3.729 | -1.899 | NEURL1B        | Homo sapiens Fes cell surface tyrosine receptor tyrosine kinase 1B, [NEURL1B], mRNA [NM_001074750]   |
| A.22.P189131   | down | -3.728 | -1.898 | NEURL1         | Homo sapiens Fes cell surface tyrosine receptor tyrosine kinase 1B, [NEURL1], mRNA [NM_001074750]  |
| A.22.P00008271 | down | -3.728 | -1.898 | GRNDE          | Homo sapiens neuronal growth factor receptor 1, expressed non-protein coding, [GRNDE], transcript variant 4, long non-coding RNA [NR_110654]                       |
| A.33.P3311473  | down | -3.727 | -1.898 | ATP10D         | Homo sapiens ATPase class V, type 10C, [ATP10D], mRNA [NM_0204483]   |
| A.23.P420200   | down | -3.727 | -1.898 | ZNF527         | Homo sapiens zinc finger protein 527, [ZNF527], mRNA [NM_032453]   |
| A.23.P186865   | down | -3.727 | -1.898 | GBARF44        | Homo sapiens zinc finger protein 8, open reading frame 44, [GBARF44], mRNA [NM_0196607]  |
| A.23.P186874   | down | -3.724 | -1.897 | ZNF225         | Homo sapiens zinc finger protein 225, [ZNF225], mRNA [NM_0133832]  |
| A.24.P314179   | down | -3.724 | -1.897 | ETS2           | Homo sapiens v-ets avian erythroblastosis virus E26 oncogene homolog 2, [ETS2], transcript variant 1, mRNA [NM_005229]   |
| A.23.P24655    | down | -3.723 | -1.896 | PHLDB1         | Homo sapiens pleckstrin homology-like domain, family B, member 1, [PHLDB1], transcript variant 1, mRNA [NM_015157]   |
| A.23.P59388    | down | -3.722 | -1.896 | DST            | Homo sapiens dystonin [DST], transcript variant 1e, mRNA [NM_001792]   |
| A.24.P259922   | down | -3.722 | -1.896 | LANCL1         | Homo sapiens LanC biotinidase synthase component C-like 1, [bacterial] [LANCL1], transcript variant 1, mRNA [NM_006059]  |
| A.24.P313324   | down | -3.721 | -1.896 | SEPR2          | Homo sapiens small EDRK-rich factor 2, [SEPR2], transcript variant 4, mRNA [NM_001196877]  |
| A.22.P0012814  | down | -3.721 | -1.896 | inc-RFL1-1     | Homo sapiens cDNA FLJ11871, fig. clone FEMBA104776, [AK027139]   |
| A.24.P146836   | down | -3.716 | -1.894 | KLDC2B         | Homo sapiens kinase domain containing 2B, [KLDC2B], mRNA [NM_175456]   |
| A.32.P21474    | down | -3.710 | -1.891 | IRAK1BP1       | Homo sapiens interleukin-1 receptor-associated kinase 1 binding protein 1, [IRAK1BP1], mRNA [NM_001019844]   |
| A.23.P127864   | down | -3.708 | -1.891 | PROCP          | Homo sapiens prolylcarboxypeptidase (angiotensinase C) [PRCP], transcript variant 2, mRNA [NM_189418]  |
| A.24.P140275   | down | -3.706 | -1.890 | SORBS2         | Homo sapiens sorbin and SH3 domain containing 2, [SORBS2], transcript variant 2, mRNA [NM_021069]  |
| A.33.P3037415  | down | -3.705 | -1.890 | GNAL           | Homo sapiens guanine nucleotide binding protein (G protein), alpha activating activity polypeptide, olfactory type, [GNAL], transcript variant 1, mRNA [NM_182978] |
| A.23.P133685   | down | -3.705 | -1.890 | PERK           | Homo sapiens I-epsilon-related Src family tyrosine kinase, [PERK], mRNA [NM_002021]  |
| A.33.P2928775  | down | -3.705 | -1.890 | PRSS7          | Homo sapiens protease, serine, 57, [PRSS7], mRNA [NM_214710]   |
| A.24.P134356   | down | -3.702 | -1.888 | BTBD3          | Homo sapiens BTB (POZ) domain containing 3, [BTBD3], transcript variant 1, mRNA [NM_014982]  |
| A.21.P0010536  | down | -3.701 | -1.888 | GBF3           | Homo sapiens guanine binding protein 3, [GBP3], mRNA [NM_018938]   |
| A.23.P63896    | down | -3.700 | -1.887 | FAS            | Homo sapiens Fas cell surface death receptor, [FAS], transcript variant 1, mRNA [NM_000943]  |
| A.21.P0010703  | down | -3.695 | -1.886 | inc-C1orf177-2 | LOC102744322, [inc-C1orf177-2], lincRNA [inc-C1orf177-2]   |
| A.22.P0002873  | down | -3.695 | -1.886 | LOC10274532    | PREDICTED: Homo sapiens uncharacterized LOC10274532, [LOC10274532], transcript variant X1, mRNA [XR_428843]  |
| A.23.P21485    | down | -3.692 | -1.884 | PD1            | Homo sapiens phosphotyrosine interaction domain containing 1, [PD1], transcript variant 1, mRNA [NM_017353]  |
| A.23.P141892   | down | -3.689 | -1.883 | HSD11B1L       | Homo sapiens hydroxysteroid (11-beta) dehydrogenase 1-like, [HSD11B1L], transcript variant b, mRNA [NM_148708]   |
| A.23.P24576    | down | -3.679 | -1.879 | AMXR1          | Homo sapiens anthrax toxin receptor 1, [AMXR1], transcript variant 2, mRNA [NM_053634]   |
| A.33.P3242388  | down | -3.675 | -1.878 | PIGX           | Homo sapiens phosphatidylinositol glycan anchor biosynthesis, class X, [PIGX], transcript variant 1, mRNA [NM_001169304]   |
| A.23.P084228   | down | -3.675 | -1.878 | DEIND3A        | Homo sapiens DENN/MADD domain containing 4A, [DENND4A], transcript variant 1, mRNA [NM_001144823]  |
| A.21.P0014685  | down | -3.673 | -1.877 | ID2-AS1        | Homo sapiens ID2 antisense RNA 1, [head to head] [ID2-AS1], transcript variant 2, long non-coding RNA [NR_110164]  |
| A.23.P164814   | down | -3.671 | -1.876 | G1orf57        | Homo sapiens chromosome 19 open reading frame 57, [G1orf57], mRNA [NM_024323]  |
| A.24.P254084   | down | -3.671 | -1.876 | ZNF69          | Homo sapiens zinc finger protein 69, [ZNF69], mRNA [NM_021915]   |
| A.24.P345042   | down | -3.670 | -1.876 | NUDT11         | Homo sapiens nudix (nucleoside diphosphate linked moiety X)-type motif 11, [NUDT11], mRNA [NM_018159]  |
| A.23.P28240    | down | -3.669 | -1.876 | FAM95B         | Homo sapiens family with sequence similarity 95, member B, [FAM95B], mRNA [NM_012138]  |
| A.23.P303596   | down | -3.667 | -1.875 | LRRCS8         | Homo sapiens leucine rich repeat containing 38, [LRRCS8], mRNA [NM_188075]   |
| A.23.P39485    | down | -3.667 | -1.874 | ESZ2           | Homo sapiens bone marrow stromal cell antigen 2, [ESZ2], mRNA [NM_004339]  |
| A.23.P39486    | down | -3.666 | -1.874 | ESZ1           | Homo sapiens bone marrow stromal cell antigen 2, [ESZ1], mRNA [NM_004339]  |
| A.33.P3841268  | down | -3.664 | -1.872 | FBXO25         | Homo sapiens F-box protein 25, [FBXO25], transcript variant 1, mRNA [NM_003032824]   |
| A.22.P00015289 | down | -3.662 | -1.872 | CEP350-AS1     | Homo sapiens CEP350 antisense RNA 1, [CEP350-AS1], transcript variant 1, long non-coding RNA [NR_045788]   |
| A.23.P000081   | down | -3.662 | -1.872 | HTR7           | Homo sapiens 5-hydroxytryptamine (serotonin) receptor 7, adenylylate cyclase-coupled, [HTR7], transcript variant d, mRNA [NM_019859]                               |
| A.32.P161762   | down | -3.661 | -1.872 | RUNX2          | Homo sapiens runt-related transcription factor 2, [RUNX2], transcript variant 1, mRNA [NM_001024630]   |
| A.24.P273063   | down | -3.659 | -1.872 | FABP5          | Homo sapiens fatty acid binding protein 5, [sorcinase-associated], [FABP5], mRNA [NM_001444]   |
| A.23.P31724    | down | -3.657 | -1.871 | MEDCOM         | Homo sapiens MDS1 and EVI1 complex locus, [MEDCOM], transcript variant 2, mRNA [NM_005941]   |
| A.33.P3249596  | down | -3.655 | -1.870 | BAE1E          | Homo sapiens beta site APP-cleaving enzyme 1, [BACE1], transcript variant a, mRNA [NM_012104]  |
| A.33.P3036823  | down | -3.654 | -1.870 | ZNF846         | Homo sapiens zinc finger protein 846, [ZNF846], mRNA [NM_001077824]  |
| A.23.P1874     | down | -3.654 | -1.868 | PRKCO          | Homo sapiens protein kinase C, theta, [PRKCO], transcript variant 1, mRNA [NM_009257]  |
| A.23.P34173    | down | -3.649 | -1.868 | LY75           | Homo sapiens lymphocyte antigen 75, [LY75], mRNA [NM_002349]   |
| A.23.P124537   | down | -3.649 | -1.867 | LRP1           | Homo sapiens low density lipoprotein receptor-related protein 1, [LRP1], mRNA [NM_002382]  |
| A.33.P3367892  | down | -3.648 | -1.867 | GPH            | Homo sapiens complement factor H, [CFH], transcript variant 2, mRNA [NM_001014875]   |
| A.22.P00025917 | down | -3.648 | -1.867 | LOC100686603   | Homo sapiens uncharacterized LOC100686603, [LOC100686603], transcript variant 1, long non-coding RNA [NR_104150]   |
| A.33.P320280   | down | -3.647 | -1.867 | EPK1L          | Homo sapiens epidermal keratin 1, [EPK1L], transcript variant 3, mRNA [NM_001243532]   |
| A.33.P3214813  | down | -3.642 | -1.865 | C1orf94        | Homo sapiens chromosome 11 open reading frame 94, [C1orf94], mRNA [NM_001004046]   |
| A.33.P3245384  | down | -3.642 | -1.865 | DMK3           | Homo sapiens domain 3, [DMK3], transcript variant 3, mRNA [NM_001278292]   |
| A.23.P50877    | down | -3.642 | -1.865 | FABP5          | Homo sapiens fatty acid binding protein 5, [sorcinase-associated], [FABP5], mRNA [NM_001444]   |
| A.23.P500300   | down | -3.637 | -1.863 | TRIM15         | Homo sapiens tripartite motif containing 15, [TRIM15], mRNA [NM_033229]  |
| A.23.P10184    | down | -3.637 | -1.863 | SEC24L2        | Homo sapiens secure related 6 homolog, [mouse]-like 2, [SEC24L2], transcript variant 2, mRNA [NM_201575]   |

|                |      |       |        |                |  |
|----------------|------|-------|--------|----------------|--|
| A.32.P19246    | down | 3.633 | -1.861 | FOXO4          | Homo sapiens forkhead box D4 (FOXO4), mRNA [NM.0207305]  |
| A.33.P2329295  | down | 3.631 | -1.860 | PRODH          | Homo sapiens proline dehydrogenase (oxidase) 1 (PRODH), transcript variant 1, mRNA [NM.0163335]  |
| A.33.P9812319  | down | 3.631 | -1.860 | NUFYP3         | NADH dehydrogenase (ubiquinone) flavoprotein 3, 10kDa (Source:HGNC Symbol;Acc:HGNC:7119) [ENS:TM0000400293]  |
| A.33.P3214129  | down | 3.629 | -1.859 | TRIL           | Homo sapiens tRNA intrator with leucine-rich repeats (TRIL), mRNA [NM.0148177]   |
| A.24.P183864   | down | 3.626 | -1.858 | SEPPIN4        | Homo sapiens serpin peptidase inhibitor, clone B (ovalbumin), member 4 (SEPPIN4), transcript variant 1, mRNA [NM.029374]   |
| A.23.P502413   | down | 3.626 | -1.858 | TCFANC         | Homo sapiens transcription elongation factor A (SII) N-terminal and central domain containing (TCFANC), transcript variant 2, mRNA [NM.001297963]                    |
| A.21.P901653   | down | 3.624 | -1.858 | ALOG3          | ALOG3, LOC10292937 [ENS:TM0000000000]  |
| A.21.P003297   | down | 3.622 | -1.857 | SCG5           | SCG5, LOC10292937 [ENS:TM0000000000]   |
| A.22.P403297   | down | 3.622 | -1.857 | SCG5           | SCG5, LOC10292937 [ENS:TM0000000000]   |
| A.22.P403297   | down | 3.622 | -1.857 | SCG5           | SCG5, LOC10292937 [ENS:TM0000000000]   |
| A.23.P103371   | down | 3.617 | -1.855 | AZIN2          | Homo sapiens azinose synthase 2 (AZIN2), transcript variant 2, mRNA [NM.001024866]   |
| A.23.P103371   | down | 3.617 | -1.855 | AZIN2          | Homo sapiens azinose synthase 2 (AZIN2), transcript variant 1, mRNA [NM.029388]  |
| A.24.P94228    | down | 3.608 | -1.851 | SYAV2          | Homo sapiens sytichonin 2 (SYAV2), transcript variant 2, CYP4V2, mRNA [NM.0207392]   |
| A.33.P333950   | down | 3.606 | -1.851 | DST            | Homo sapiens dystonin (DST), transcript variant, 1c, mRNA [NM.0011728]   |
| A.23.P94508    | down | 3.605 | -1.850 | ADCK3          | Homo sapiens aryl domain containing kinase 3 (ADCK3), mRNA [NM.020247]   |
| A.21.P0000711  | down | 3.604 | -1.850 | SFD5A3-AS1     | Homo sapiens SFD5A3 antisense RNA 1 (SFD5A3-AS1), long non-coding RNA [NR.037969]  |
| A.23.P364637   | down | 3.604 | -1.849 | VPS13D         | Homo sapiens vacuolar protein sorting 13 homolog D (S. cerevisiae) (VPS13D), transcript variant 1, mRNA [NM.0153738]   |
| A.32.P100083   | down | 3.600 | -1.848 | IT22B          | Homo sapiens tetraucleotide repeat domain 28 (IT22B), mRNA [NM.001145418]  |
| A.21.P0010306  | down | 3.596 | -1.847 | MR90AHG        | m1-99a-let-7c cluster host gene (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:1274] [ENS:TM0000002892]   |
| A.23.P12393    | down | 3.595 | -1.846 | RORI           | Homo sapiens receptor tyrosine kinase-like orphan receptor 1 (RORI), transcript variant 1, mRNA [NM.005012]  |
| A.33.P3293666  | down | 3.594 | -1.846 | DEINDAC        | PREDICTED: Homo sapiens DENN/MADD domain containing 4C (DENND4C), transcript variant X1, mRNA [XM.00710394]  |
| A.33.P3293666  | down | 3.593 | -1.845 | FLVCR1-AS1     | Homo sapiens flavin monooxidase RNA 1 (head to head) (FLVCR1-AS1), transcript variant 2, long non-coding RNA [NR.027368]   |
| A.23.P940407   | down | 3.592 | -1.845 | CASP14         | Homo sapiens caspase 14, apoptosis-related cysteine peptidase (CASP14), mRNA [NM.012114]   |
| A.24.P727001   | down | 3.591 | -1.844 |                |  |
| A.21.P000733   | down | 3.587 | -1.843 | LOC10275370    | PREDICTED: Homo sapiens uncharacterized LOC10275370 (LOC10275370), transcript variant X3, cDNA [XR.424597]   |
| A.23.P20743    | down | 3.585 | -1.842 | TMEM246        | Homo sapiens transmembrane protein 246 (TMEM246), transcript variant 1, mRNA [NM.032342]   |
| A.22.P0016935  | down | 3.584 | -1.841 | TSPAN33        | Homo sapiens tetraspanin 33 (TSPAN33), mRNA [NM.178562]  |
| A.33.P332112   | down | 3.583 | -1.841 | FAS            | Homo sapiens Fas cell surface death receptor (FAS), transcript variant 1, mRNA [NM.000043]   |
| A.23.P93200    | down | 3.582 | -1.841 | AK8            | Homo sapiens adenylylate kinase 8 (AK8), mRNA [NM.192572]  |
| A.23.P43580    | down | 3.581 | -1.840 | CNTRL          | Homo sapiens centrin (CNTRL), mRNA [NM.007018]   |
| A.24.P381604   | down | 3.579 | -1.839 | ITM2B          | Homo sapiens integrin alpha membrane protein 2B (ITM2B), mRNA [NM.002189]  |
| A.33.P3781084  | down | 3.578 | -1.839 | LINC01549      | Homo sapiens long intergenic non-protein coding RNA 1549 (LINC01549), transcript variant 1, long non-coding RNA [NR.037955]  |
| A.33.P3217649  | down | 3.575 | -1.838 | 9p9116         | Homo sapiens chromosome 9 open reading frame 116 (9p9116), transcript variant 1, mRNA [NM.001042825]   |
| A.22.P0000837  | down | 3.573 | -1.837 | LRRCB          | Homo sapiens leucine rich repeat containing 8 family, member B (LRRCB), transcript variant 1, mRNA [NM.033361]   |
| A.21.P0012381  | down | 3.566 | -1.834 | ALOC1013730    | ALOC1013730, lincRNA [LOC1013730], lincRNA [TCONS.0.0026399]   |
| A.24.P303568   | down | 3.563 | -1.833 | DNAE4          | Homo sapiens DNAE4 (Hsp40) homolog, subfamily B, member 4 (DNAE4), mRNA [NM.0070294]   |
| A.32.P121065   | down | 3.563 | -1.833 | DOK3           | Homo sapiens docking protein 3 (DOK3), transcript variant 2, mRNA [NM.001446873]   |
| A.24.P365611   | down | 3.562 | -1.832 | SF100          | Homo sapiens SF100 nuclear antigen (SF100), transcript variant 2, mRNA [NM.003113]   |
| A.23.P17663    | down | 3.560 | -1.832 | MX1            | Homo sapiens MX domain-like GTPase 1 (MX1), transcript variant 2, mRNA [NM.002482]   |
| A.24.P94844    | down | 3.558 | -1.831 | BRMS1L         | Homo sapiens breast cancer metastasis suppressor 1-like (BRMS1L), mRNA [NM.032392]   |
| A.22.P0008737  | down | 3.557 | -1.831 | linc-KAAT755-f | Homo sapiens cDNA clone IMAGE8602478, partial cds. [BC071821]  |
| A.23.P210445   | down | 3.557 | -1.831 | LMBL1          | Homo sapiens L3mb-like 1 (L3mb-like 1) (LMBL1), transcript variant 1, mRNA [NM.032107]   |
| A.21.P0008464  | down | 3.556 | -1.830 | LINC01550      | long intergenic non-protein coding RNA 1550 [Source:HGNC Symbol;Acc:HGNC:20111] [ENS:TM0000512901]   |
| A.23.P100405   | down | 3.556 | -1.830 | NDN            | Homo sapiens nadin, melanoma antigen (IMAGE) family member (NDN), mRNA [NM.002487]   |
| A.23.P10896    | down | 3.555 | -1.830 | SLC28A6        | Homo sapiens solute carrier family 26 (ion exchanger), member 6 (SLC28A6), transcript variant 4, mRNA [NM.001040454]   |
| A.21.P0004024  | down | 3.555 | -1.830 | linc-RASAT-3   | linc-RASAT-3, lincRNA [inc-RASAT-3-1]  |
| A.23.P35935    | down | 3.549 | -1.827 | GIMP           | Homo sapiens CAAD-like membrane protein (GIMP), mRNA [NM.026789]   |
| A.23.P35935    | down | 3.549 | -1.827 | GIMP           | Homo sapiens CAAD-like membrane protein (GIMP), mRNA [NM.026789]   |
| A.23.P35935    | down | 3.549 | -1.827 | GIMP           | Homo sapiens CAAD-like membrane protein (GIMP), mRNA [NM.026789]   |
| A.33.P3244831  | down | 3.548 | -1.827 | SNHG19         | small nuclear RNA host gene 19 (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:49574] [ENS:00000503182]  |
| A.22.P0007308  | down | 3.547 | -1.826 | TMEM45A        | Homo sapiens transmembrane protein 45A (TMEM45A), mRNA [NM.018004]   |
| A.23.P35564    | down | 3.546 | -1.826 | MR90AHG        | Homo sapiens transmembrane-19-like cluster four gene (non-protein coding) (MR90AHG), transcript variant 1, long non-coding RNA [NR.027390]                           |
| A.22.P00017033 | down | 3.542 | -1.825 | SEC31B         | Homo sapiens SEC31 homolog B (S. cerevisiae) (SEC31B), mRNA [NM.016480]  |
| A.33.P322728   | down | 3.542 | -1.825 | linc-TLL11-1   | PREDICTED: Homo sapiens tubulin tyrosine ligase-like family, member 11 (TLL11), transcript variant X4, mRNA [XM.006716967]   |
| A.23.P46045    | down | 3.542 | -1.824 | RGS5           | Homo sapiens zinc finger with KRAB and SCAN domains 7 (ZKSCAN7), transcript variant 5, mRNA [NM.001286592]   |
| A.23.P37342    | down | 3.537 | -1.823 | FRIL1          | Homo sapiens regulator of G-protein signaling 5 (RGS5), transcript variant 1, mRNA [NM.003617]   |
| A.23.P104471   | down | 3.537 | -1.823 | DUSP13         | Homo sapiens dual specificity phosphatase 13 (DUSP13), transcript variant 1, mRNA [NM.001007271]   |
| A.23.P153867   | down | 3.535 | -1.822 | GEFSA4         | Homo sapiens ceramide synthase 4 (GEFSA4), mRNA [NM.026552]  |
| A.24.P393372   | down | 3.531 | -1.820 | PAGS2          | Homo sapiens phosphatidylinositol 4-ohase cluster sorting protein 2 (PAGS2), transcript variant 1, mRNA [NM.00100913]  |
| A.23.P320553   | down | 3.530 | -1.820 | PPFIA3         | Homo sapiens protein tyrosine phosphatase, receptor type 1 polypeptide (PTPRF), interacting protein (beta), alpha 3 (PPFIA3), transcript variant 1, mRNA [NM.003900] |
| A.23.P71816    | down | 3.529 | -1.819 | TSPAN11        | Homo sapiens tetraspanin 11 (TSPAN11), mRNA [NM.00100913]  |
| A.22.P0005931  | down | 3.529 | -1.819 | D5Z2           | Homo sapiens 2S (D5Z2), SRR1444036 [ENS:0000000000]  |
| A.23.P94228    | down | 3.527 | -1.819 | ZNF436-AS1     | Homo sapiens ZNF436 antisense RNA 1 (ZNF436-AS1), transcript variant 1, long non-coding RNA [NR.033660]  |
| A.21.P0012519  | down | 3.526 | -1.818 | DBZ1946        | Homo sapiens TRACH33 Homo sapiens cDNA clone TRACH3305715.5, mRNA sequence [DBZ1946] [NM.001300789]  |
| A.32.P97623    | down | 3.525 | -1.818 | FAM170C        | Homo sapiens family with sequence similarity 120C (FAM170C), transcript variant 3, mRNA [NM.001300789]   |
| A.22.P00007632 | down | 3.524 | -1.817 | USP3-AS1       | Homo sapiens USP3 antisense RNA 1 (USP3-AS1), long non-coding RNA [NR.094080]  |



|               |        |        |       |   |   |
|---------------|--------|--------|-------|---|---|
| A.32.P3403773 | -3.524 | -1.817 | 3.924 | ZNF569  | Homo sapiens zinc finger protein 569 (ZNF569), mRNA [NM_152484]   |
| A.24.P028418  | -3.922 | -1.817 | 3.922 | DIGER1-AS1  | Homo sapiens DIGER1 antisense RNA 1 (DIGER1-AS1), long non-coding RNA [NR_015413]   |
| A.23.P149858  | -3.920 | -1.816 | 3.920 | ELOVL3  | Homo sapiens ELOVL3, fatty acid elongase 3 (ELOVL3), mRNA [NM_192310]   |
| A.24.P418816  | -3.920 | -1.815 | 3.920 | GPX7  | Homo sapiens glutathione peroxidase 7 (GPX7), mRNA [NM_015896]  |
| A.23.P177608  | -3.919 | -1.815 | 3.919 | SLC47A2   | Homo sapiens solute carrier family 47 (multidrug and toxin extrusion), member 2 (SLC47A2), transcript variant 1, mRNA [NM_159098]       |
| A.23.P420209  | -3.917 | -1.814 | 3.917 | GGNT3   | Homo sapiens glucosylaminyl (N-acyl) transferase 3, main type (GGNT3), mRNA [NM_004751]   |
| A.21.P0017110 | -3.915 | -1.813 | 3.915 | LOC101929395  | Homo sapiens uncharacterized LOC101929395 (LOC101929395), long non-coding RNA [NR_110611]   |
| A.21.P381355  | -3.914 | -1.813 | 3.914 | SAFB1B  | Homo sapiens SH2A-associated protein, 180kDa (SAFB1B), mRNA [NM_005970]   |
| A.24.P40630   | -3.914 | -1.813 | 3.914 | small integral membrane protein 11 (SourceHGNC:Symbol:AC116238) | small integral membrane protein 11 (SourceHGNC:Symbol:AC116238) [ENST00000481710]   |
| A.33.P386720  | -3.912 | -1.812 | 3.912 | ZNF436-AS1  | Homo sapiens ZNF436 antisense RNA 1 (ZNF436-AS1), transcript variant 2, long non-coding RNA [NR_182699]                                 |
| A.32.P43717   | -3.911 | -1.812 | 3.911 | FAM189A2  | Homo sapiens family with sequence similarity 189, member A2 (FAM189A2), transcript variant 1, mRNA [NM_004816]                          |
| A.21.P0009158 | -3.910 | -1.812 | 3.910 | IMAGE482228   | Homo sapiens clone IMAGE482228, mRNA [BC017792]   |
| A.23.P17012   | -3.904 | -1.809 | 3.904 | SGRN3   | Homo sapiens securin 3 (SGRN3), transcript variant 1, mRNA [NM_024693]  |
| A.33.P3418025 | -3.903 | -1.809 | 3.903 | CTSO  | Homo sapiens cathepsin O (CTSO), mRNA [NM_001334]   |
| A.32.P098064  | -3.468 | -1.807 | 3.468 | FGGY  | Homo sapiens FGGY carboxylate kinase domain containing (FGGY), transcript variant 2, mRNA [NM_018291]                                   |
| A.21.P0011045 | -3.466 | -1.806 | 3.466 | ALC12.022652  | BROAD Institute lincRNA, ALC12.022652, lincRNA [TCONS12_00005598]   |
| A.33.P3816429 | -3.461 | -1.804 | 3.461 | PRKXPI  | Homo sapiens protein kinase X-kinase, pseudogene 1 (PRKXPI), non-coding RNA [NR_073405]   |
| A.24.P184388  | -3.468 | -1.802 | 3.468 | LRTOMT  | Homo sapiens major histocompatibility complex, class II, DO beta 1 (HLA-DOB1), transcript variant 3, mRNA [NM_00124962]                 |
| A.23.P81108   | -3.466 | -1.801 | 3.466 | HLA-DOB1  | PREDICED: Homo sapiens uncharacterized LOC102724851 (LOC102724851), transcript variant X1, mRNA [XR_427900]                             |
| A.21.P0004684 | -3.464 | -1.801 | 3.464 | SAF293L   | Homo sapiens SAF293-like (SAF293L), transcript variant 1, mRNA [NM_024632]  |
| A.24.P181971  | -3.464 | -1.801 | 3.464 | NUDT8   | Homo sapiens nucleoside diphosphate-linked moiety X-type motif 8 (NUDT8), transcript variant 1, mRNA [NM_001437950]                     |
| A.33.P384892  | -3.463 | -1.800 | 3.463 | AUTS2   | Homo sapiens autism susceptibility candidate 2 (AUTS2), transcript variant 1, mRNA [NM_019570]  |
| A.23.P122006  | -3.470 | -1.799 | 3.470 | lincRNA   | lincRNA (linc-PKNOX1-2), lincRNA [linc-PKNOX1-2.2]  |
| A.21.P0010257 | -3.478 | -1.798 | 3.478 | TMEM138   | Homo sapiens zinc finger protein 501 (ZNF501), transcript variant 2, mRNA [NM_001298280]  |
| A.33.P3253656 | -3.478 | -1.798 | 3.478 | TMEM138   | Homo sapiens transmembrane protein 138 (TMEM138), transcript variant 1, mRNA [NM_016444]  |
| A.23.P24723   | -3.475 | -1.797 | 3.475 | Q49A15.HUMAN (Q49A15) CPMA2 protein, partial (1/3) (H2C2746072) | Q49A15.HUMAN (Q49A15) CPMA2 protein, partial (1/3) (H2C2746072)   |
| A.22.P0014642 | -3.473 | -1.796 | 3.473 | GAMT  | Homo sapiens guanidinoacetate N-methyltransferase (GAMT), transcript variant 2, mRNA [NM_138824]  |
| A.24.P182228  | -3.473 | -1.796 | 3.473 | PKM4  | Homo sapiens protein (glycolytic) cis/trans isomerase NIMA-interacting 4 (paw.vuln) (PKM4), transcript variant 1, mRNA [NM_006223]      |
| A.23.P315245  | -3.471 | -1.795 | 3.471 | KDM4D   | Homo sapiens lysine (K)-specific demethylase 4D (KDM4D), mRNA [NM_018039]   |
| A.23.P127406  | -3.468 | -1.794 | 3.468 | LSM9  | LSM9 homolog, US small nuclear RNA associated (S. cerevisiae) [Source:HGNC]   |
| A.33.P379228  | -3.467 | -1.794 | 3.467 | Symbol:AC116238   | Symbol:AC116238 [ENST00000360694]   |
| A.22.P0012487 | -3.464 | -1.792 | 3.464 | LOC102723729  | Homo sapiens uncharacterized LOC102723729 (LOC102723729), long non-coding RNA [NR_129824]   |
| A.23.P81388   | -3.461 | -1.791 | 3.461 | UBD   | Homo sapiens ubiquitin D (UBD), mRNA [NM_009398]  |
| A.23.P46595   | -3.461 | -1.791 | 3.461 | SALL2   | Homo sapiens SALL-like transcription factor 2 (SALL2), transcript variant 1, mRNA [NM_005407]   |
| A.21.P0004903 | -3.460 | -1.791 | 3.460 | LOC257386   | Homo sapiens uncharacterized LOC257386 (LOC257386), transcript variant 1, long non-coding RNA [NR_184101]                               |
| A.33.P3338878 | -3.460 | -1.791 | 3.460 | TMEM180   | Homo sapiens transmembrane protein 180 (TMEM180), mRNA [NM_024789]  |
| A.24.P38276   | -3.460 | -1.790 | 3.460 | EZD1  | Homo sapiens ezrin/radixin/sclaflex class receptor 1 (EZD1), mRNA [NM_003505]   |
| A.21.P0000885 | -3.459 | -1.790 | 3.459 | ZNF799-AS1  | Homo sapiens ZNF799 antisense RNA 1 (ZNF799-AS1), transcript variant 1, long non-coding RNA [NR_040027]                                 |
| A.33.P3321816 | -3.459 | -1.790 | 3.459 | LOC10022216   | Homo sapiens uncharacterized LOC10022216 (LOC10022216), long non-coding RNA [NR_027430]   |
| A.21.P0000750 | -3.456 | -1.789 | 3.456 | MFZ1  | Homo sapiens MFZ1 antisense RNA 1 (MFZ1-AS1), long non-coding RNA [NR_039295]   |
| A.33.P3232325 | -3.455 | -1.789 | 3.455 | SP100   | Homo sapiens SP100 nuclear antigen (SP100), transcript variant 1, mRNA [NM_001080391]   |
| A.33.P342841  | -3.455 | -1.789 | 3.455 | SLC44A5   | Homo sapiens solute carrier family 44, member 5 (SLC44A5), transcript variant 1, mRNA [NM_152897]                                       |
| A.24.P347378  | -3.453 | -1.788 | 3.453 | ALOX5AP   | Homo sapiens arachidonate 5-lipoxygenase-activating protein (ALOX5AP), transcript variant 1, mRNA [NM_001629]                           |
| A.32.P48692   | -3.453 | -1.788 | 3.453 | POLH  | Homo sapiens polymerase (DNA directed), eta (POLH), transcript variant 1, mRNA [NM_005502]  |
| A.33.P3234849 | -3.452 | -1.787 | 3.452 | UTRN  | Homo sapiens utrophin (UTRN), mRNA [NM_007724]  |
| A.23.P37980   | -3.449 | -1.786 | 3.449 | HTRAI1  | Homo sapiens HTRA1 serine peptidase 1 (HTRAI1), mRNA [NM_007775]  |
| A.33.P3306066 | -3.448 | -1.786 | 3.448 | MYCL  | Homo sapiens v-myb avian myeloblastosis viral oncogene lung carcinoma derived homolog (MYCL), transcript variant 1, mRNA [NM_001030951] |
| A.23.P145424  | -3.447 | -1.785 | 3.447 | CEP162  | Homo sapiens centrosomal protein 162kDa (CEP162), transcript variant 1, mRNA [NM_014888]  |
| A.21.P0017182 | -3.446 | -1.785 | 3.446 | ANKRD20A9P  | Homo sapiens ankyrin repeat domain 20 family, member A9, pseudogene (ANKRD20A9P), non-coding RNA [NR_027986]                            |
| A.22.P0000808 | -3.443 | -1.784 | 3.443 | linc-GALBP4-3   | ENST00000291161 (ENST00000291161) lincRNA, BX107872, SourceHGNC:Symbol:AC116238   |
| A.33.P3293989 | -3.439 | -1.782 | 3.439 | TIAL1   | TIA1 cytosolic granule-associated RNA binding protein-like 1 [Source:HGNC]  |
| A.33.P3366139 | -3.437 | -1.781 | 3.437 | MMP3K1  | Homo sapiens mitogen-activated protein kinase kinase 1, E3 ubiquitin protein ligase (MMP3K1), mRNA [NM_005921]                          |
| A.23.P36763   | -3.436 | -1.781 | 3.436 | ALDH2   | Homo sapiens aldehyde dehydrogenase 2 family (mitochondrial) (ALDH2), transcript variant 1, mRNA [NM_000690]                            |
| A.33.P3302676 | -3.435 | -1.780 | 3.435 | TLF4  | transducin-like enhancer of split 4 [Source:HGNC:Symbol:AC116238]   |
| A.23.P139704  | -3.434 | -1.780 | 3.434 | DUSP6   | Homo sapiens dual specificity phosphatase 6 (DUSP6), transcript variant 1, mRNA [NM_0019146]  |
| A.23.P417853  | -3.433 | -1.779 | 3.433 | MYO3B   | Homo sapiens myosin IIIB (MYO3B), transcript variant 2, mRNA [NM_138995]  |
| A.23.P389540  | -3.432 | -1.779 | 3.432 | ZFP381L   | Homo sapiens ZFP381-like finger protein-like 1 (ZFP381L), transcript variant 1, mRNA [NM_004826]  |
| A.23.P422831  | -3.430 | -1.778 | 3.430 | FAM189A2  | Homo sapiens family with sequence similarity 189, member A2 (FAM189A2), transcript variant 1, mRNA [NM_004816]                          |
| A.33.P3366758 | -3.425 | -1.776 | 3.425 | HLA-DOB1  | Homo sapiens major histocompatibility complex, class II, DO beta 1 (HLA-DOB1), transcript variant 2, mRNA [NM_00124962]                 |
| A.23.P136683  | -3.425 | -1.776 | 3.425 | MAGEH1  | Homo sapiens melanoma antigen family H1 (MAGEH1), mRNA [NM_014061]  |
| A.23.P34144   | -3.424 | -1.776 | 3.424 | DHER1   | Homo sapiens dihydrolipoate reductase (DHER1), transcript variant 1, mRNA [NM_000791]   |
| A.32.P211045  | -3.422 | -1.775 | 3.422 | RAB11FIP4   | RAB11 family interacting protein 4 (class II) [Source:HGNC:Symbol:AC116238]   |
| A.23.P38427   | -3.421 | -1.774 | 3.421 | LOC101927630  | Homo sapiens uncharacterized LOC101927630 (LOC101927630), long non-coding RNA [NR_110013]   |
| A.21.P0013414 | -3.421 | -1.774 | 3.421 |   |   |

|                |        |        |      |              |   |
|----------------|--------|--------|------|--------------|---|
| A.23.P16923    | -3.420 | -1.774 | down | RBKS         | Homo sapiens ribonuclease (RBKS), transcript variant 1, mRNA [NM_022128]  |
| A.23.P11429    | -3.417 | -1.773 | down | MPZ2         | Homo sapiens mitochondrial pyruvate carrier 2 (MPZ2), transcript variant 2, mRNA [NM_015415]  |
| A.32.P18138    | -3.416 | -1.772 | down | BVES         | Homo sapiens blood vessel epivascular substance (BVES), transcript variant B, mRNA [NM_147147]  |
| A.21.P0000284  | -3.415 | -1.772 | down | SNORD84      | Homo sapiens small nucleolar RNA, C/D box 84 (SNORD84), small nucleolar RNA, [NR_001294]  |
| A.21.P000048   | -3.414 | -1.771 | down | LOC10827471  | PREDICTED: Homo sapiens uncharacterized LOC10827471 (LOC10827471), transcript variant X2, mRNA [XR_243795]                              |
| A.22.P00003258 | -3.412 | -1.771 | down | HOXB-AS1     | Homo sapiens HOXB cluster antisense RNA 1 (HOXB-AS1), long non-coding RNA [NR_02279]  |
| A.33.P328460   | -3.412 | -1.771 | down | FYD03        | Homo sapiens FYD domain containing (on transport regulator 3 (FYD03), transcript variant 3, mRNA [NM_00136007])                         |
| A.23.P204158   | -3.409 | -1.769 | down | RNF72        | Homo sapiens ring finger protein, transmembrane 2 (RNF72), transcript variant 2, mRNA [NM_022814]                                       |
| A.23.P16749    | -3.409 | -1.769 | down | LOC100287474 | Homo sapiens protein coding (LOC100287474), transcript variant 1, mRNA [NM_020193]  |
| A.23.P16749    | -3.409 | -1.769 | down | GDC9B11      | Homo sapiens protein coding (GDC9B11), transcript variant 1, mRNA [NM_019321]   |
| A.23.P16749    | -3.407 | -1.768 | down | DTZ2         | Homo sapiens protein coding (DTZ2), transcript variant 1, mRNA [NM_153426]  |
| A.23.P16749    | -3.407 | -1.768 | down | LOC30784     | Homo sapiens uncharacterized LOC30784 (LOC30784), long non-coding RNA [NR_026864]   |
| A.33.P3271460  | -3.406 | -1.768 | down | LOC10030784  | Homo sapiens family with sequence similarity 111, member A (FAM111A), transcript variant 1, mRNA [NM_022074]                            |
| A.24.P141629   | -3.406 | -1.768 | down | FAM111A      | Homo sapiens GINS complex subunit 3 (Paf3 homolog) (GINS3), transcript variant 2, mRNA [NM_022770]                                      |
| A.23.P152136   | -3.404 | -1.767 | down | GINS3        | Homo sapiens aryl hydrocarbon receptor (AHR), mRNA [NM_001021]  |
| A.33.P3210800  | -3.402 | -1.766 | down | AHR          | Homo sapiens ribosomal protein kinase, 50kDa, polypeptide 6 (RP50K6), mRNA [NM_014496]  |
| A.23.P125986   | -3.402 | -1.766 | down | RPS8KA6      | Homo sapiens protein kinase, Y-linked, pseudogene (PKRY), non-coding RNA [NR_028062]  |
| A.23.P137248   | -3.401 | -1.766 | down | PKRY         | Homo sapiens ring finger protein 207 (RNF207), mRNA [NM_037396]   |
| A.33.P3316978  | -3.393 | -1.763 | down | RNF207       | Homo sapiens ZFP3 zinc finger protein (ZFP3), mRNA [NM_153018]  |
| A.33.P3309665  | -3.387 | -1.760 | down | ZFP3         | Homo sapiens ATP-binding cassette, sub-family C (GFR/MRP), member 5 (ABCC5), transcript variant 1, mRNA [NM_008088]                     |
| A.23.P298221   | -3.386 | -1.760 | down | ABCC5        | Fatty acid binding protein 5 pseudogene 10 [SourceHGNC Symbol:AC039033.1066]  |
| A.24.P272915   | -3.384 | -1.759 | down |              |   |
| A.33.P3270291  | -3.379 | -1.757 | down | SYNGR1       | Homo sapiens synaptogyrin 1 (SYNGR1), transcript variant 1b, mRNA [NM_145731]   |
| A.24.P04039    | -3.379 | -1.757 | down | APM2         | Homo sapiens adaptor-related protein complex 3, mu 2 subunit (AP3M2), transcript variant 2, mRNA [NM_006931]                            |
| A.32.P06050    | -3.378 | -1.756 | down | NEK1         | Homo sapiens NIMA-related kinase 1 (NEK1), transcript variant 2, mRNA [NM_012224]   |
| A.21.P0001771  | -3.376 | -1.755 | down | LOC100506834 | Homo sapiens uncharacterized LOC100506834 (LOC100506834), long non-coding RNA [NR_040784]   |
| A.33.P3250963  | -3.372 | -1.754 | down | TP33TG1      | Homo sapiens TP33 target 1 (non-polein coding) (TP33TG1), long non-coding RNA [NR_015381]   |
| A.23.P102971   | -3.372 | -1.753 | down | SLC2A4RG     | Homo sapiens SLC2A4 regulator (SLC2A4RG), mRNA [NM_020082]  |
| A.23.P20275    | -3.370 | -1.753 | down | PLEKHF2      | Homo sapiens pleckstrin homology domain containing, family F (with FYVE domain) member 2 (PLEKH2), mRNA [NM_024613]                     |
| A.19.P00009840 | -3.369 | -1.752 | down | ZNF37BP      | Homo sapiens zinc finger protein 37B, pseudogene (ZNF37BP), non-coding RNA [NR_026777]  |
| A.33.P3387247  | -3.366 | -1.751 | down | GNTLN        | Homo sapiens centrin, centrosomal protein (GNTLN), transcript variant 2, mRNA [NM_00114395]   |
| A.24.P307026   | -3.366 | -1.751 | down | ATPIA4       | Homo sapiens ATPase, Na <sup>+</sup> /K <sup>+</sup> transporting, alpha 4 polypeptide (ATPIA4), transcript variant 1, mRNA [NM_146699] |
| A.21.P0002905  | -3.364 | -1.750 | down | LOC10274479  | PREDICTED: Homo sapiens uncharacterized LOC10274479 (LOC10274479), mRNA [XR_427436]   |
| A.23.P259463   | -3.362 | -1.749 | down | ZKSCAN5      | Homo sapiens zinc finger with KRAB and SCAN domains 5 (ZKSCAN5), transcript variant 1, mRNA [NM_045958]                                 |
| A.23.P217114   | -3.362 | -1.749 | down | ALAD         | Homo sapiens aminolevulinic acid dehydratase (ALAD), mRNA [NM_006931]   |
| A.22.P00002695 | -3.361 | -1.749 | down | PRELOC1      | Homo sapiens uncharacterized LOC102723272 (LOC102723272), mRNA [XR_426123]  |
| A.33.P3286929  | -3.359 | -1.748 | down | LOC10063133  | PREDICTED: Homo sapiens origin assembly A member 6 like protein, F-like (LOC10063133), mRNA [NM_00676665]                               |
| A.21.P0003294  | -3.357 | -1.747 | down | RPGRIPL1     | Homo sapiens RPGRIPL1-like (RPGRIPL1), transcript variant 1, mRNA [NM_010272]   |
| A.33.P3201205  | -3.356 | -1.747 | down | LOC10063133  | Homo sapiens cDNA clone IMAGE470299, [BC0330754]  |
| A.23.P3272025  | -3.356 | -1.747 | down | BAALC-AS1    | Homo sapiens BAALC antisense RNA 1 (BAALC-AS1), long non-coding RNA [NR_009654]   |
| A.23.P58654    | -3.355 | -1.746 | down | MCEE         | Homo sapiens methylmalonyl CoA epimerase (MCEE), mRNA [NM_032601]   |
| A.33.P3369634  | -3.354 | -1.746 | down | RASSF10      | Homo sapiens Ras association (RASSF/AF-6) domain family (N-terminal) member 10 (RASSF10), mRNA [NM_001086521]                           |
| A.33.P3241848  | -3.354 | -1.746 | down | ZNF814       | Homo sapiens zinc finger protein 814 (ZNF814), mRNA [NM_001144888]  |
| A.24.P345540   | -3.352 | -1.745 | down | ZCH8         | Homo sapiens zinc finger CCHC-type containing 8 (ZCH8), mRNA [NM_032494]  |
| A.23.P145761   | -3.349 | -1.744 | down | ARL4A        | Homo sapiens ADP-ribosylation factor-like 4A (ARL4A), transcript variant 1, mRNA [NM_005728]  |
| A.23.P18078    | -3.349 | -1.744 | down | PARRES1      | Homo sapiens retinoic acid receptor responder (tazarotene induced) 1 (PARRES1), transcript variant 1, mRNA [NM_206995]                  |
| A.21.P0015105  | -3.341 | -1.740 | down | ZFP90        | Homo sapiens ZFP90 zinc finger protein (ZFP90), mRNA [NM_133458]  |
| A.33.P3282652  | -3.340 | -1.740 | down | LOC100102057 | Homo sapiens phosphodiesterase 4D interacting protein pseudogene (LOC100102057), non-coding RNA [NR_119330]                             |
| A.32.P515431   | -3.339 | -1.739 | down | DDKNA        | Homo sapiens cyclin-dependent kinase inhibitor 2A (CDKN2A), transcript variant 1, mRNA [NM_006971]                                      |
| A.33.P3411628  | -3.338 | -1.739 | down | IQCE         | Homo sapiens IQ motif containing E (IQCE), transcript variant 1, mRNA [NM_152556]   |
| A.23.P18852    | -3.337 | -1.739 | down | GENPP        | Homo sapiens collagen protein P (GENPP), transcript variant 1, mRNA [NM_00102287]   |
| A.33.P3245321  | -3.337 | -1.738 | down | COL11A2      | Homo sapiens collagen, type XI, alpha 2 (COL11A2), transcript variant 1, mRNA [NM_00106080]   |
| A.23.P42322    | -3.336 | -1.738 | down | MMAB         | Homo sapiens methylmalonic aciduria (cobalamin deficiency) cblb type (MMAB), transcript variant 1, mRNA [NM_052845]                     |
| A.33.P3367201  | -3.335 | -1.738 | down | LOC101929132 | PREDICTED: Homo sapiens uncharacterized LOC101929132 (LOC101929132), transcript variant X1, mRNA [XR_247847]                            |
| A.22.P00015633 | -3.334 | -1.737 | down | NTNI         | Homo sapiens netrin 1 (NTNI), mRNA [NM_004922]  |
| A.32.P593524   | -3.334 | -1.737 | down | TIME52       | Homo sapiens transmembrane protein 52 (TIME52), mRNA [NM_178545]  |
| A.33.P3274319  | -3.334 | -1.737 | down | ZOWPW1       | Homo sapiens zinc finger, CW type with PWMP domain 1 (ZOWPW1), transcript variant 1, mRNA [NM_071994]                                   |
| A.23.P70897    | -3.331 | -1.736 | down | LINC00342    | Homo sapiens long intergenic non-protein coding RNA 342 (LINC00342), long non-coding RNA [NR_103734]                                    |
| A.21.P0011634  | -3.329 | -1.735 | down | SNZY1        | Homo sapiens sorting nexin 1 (SNX1), transcript variant 1, mRNA [NM_008999]   |
| A.33.P3263716  | -3.328 | -1.735 | down | SNORD18C     | Small nucleolar RNA 17/ACA box 18C [SourceHGNC Symbol:AC039029] [ENST00000580828]   |
| A.22.P00002283 | -3.328 | -1.735 | down | CCOC103      | Small nucleolar RNA 17/ACA box 18C [SourceHGNC Symbol:AC039029] [ENST00000580828]   |
| A.23.P26928    | -3.328 | -1.735 | down | CCOC103      | Small nucleolar RNA 17/ACA box 18C [SourceHGNC Symbol:AC039029] [ENST00000580828]   |
| A.22.P00022309 | -3.326 | -1.734 | down | Scler164     | Chromosomes 6 centromere frame 164 [SourceHGNC Symbol:AC039029.2.464] [ENST00000386972]   |
| A.23.P111000   | -3.326 | -1.734 | down | PSMB9        | Homo sapiens proteasome (prosome, macropain) subunit, beta type, 9 (PSMB9), mRNA [NM_028000]  |
| A.24.P186532   | -3.325 | -1.733 | down | MMF2B        | Homo sapiens matrix metalloproteinase 2B (MMF2B), transcript variant 3, mRNA [NM_001032278]   |
| A.22.P00004795 | -3.325 | -1.733 | down | nc-CXCL2-1   | Homo sapiens, clone IMAGE4105785, mRNA [BC011636]   |
| A.23.P391228   | -3.325 | -1.733 | down | MANEAL       | Homo sapiens mannosidase, endo-alpha-like (MANEAL), transcript variant 1, mRNA [NM_001031740]   |

|                |      |        |        |       |                |  |
|----------------|------|--------|--------|-------|----------------|--|
| A.23.P118943   | down | -3.324 | -1.733 | 3.324 | GFBP2          | Homo sapiens insulin-like growth factor binding protein 2, 38kDa [UGFP2], mRNA [NM.000597]                         |
| A.23.P180397   | down | -3.321 | -1.731 | 3.321 | ODHL           | Homo sapiens oxoglutarate dehydrogenase-like [ODHL], transcript variant 1, mRNA [NM.018245]                        |
| A.21.P0000618  | down | -3.318 | -1.730 | 3.318 | EIF1B-AS1      | Homo sapiens EIF1B antisense RNA 1, [EIF1B-AS1], long non-coding RNA [NR.033955]                                   |
| A.23.P29773    | down | -3.317 | -1.730 | 3.317 | LAMP3          | Homo sapiens lysosomal-associated membrane protein 3 [LAMP3], mRNA [NM.014589]                                     |
| A.33.P3257558  | down | -3.317 | -1.730 | 3.317 | ENTFL          | centoflin [Source:HGNC Symbol;Acc:HGNC:1898] [ENST00000491018]   |
| A.33.P3421243  | down | -3.315 | -1.729 | 3.315 | AFP            | Homo sapiens alpha-fetoprotein [AFP], mRNA [NM.001134]   |
| A.21.P0002730  | down | -3.315 | -1.729 | 3.315 | LOC102724370   | PREDICTED: Homo sapiens uncharacterized LOC102724370 [LOC102724370], transcript variant 3, mRNA [XR.429597]        |
| A.33.P3234864  | down | -3.315 | -1.729 | 3.315 | UTRN           | Homo sapiens utrochalin [UTRN], mRNA [NM.007124]   |
| A.24.P82493    | down | -3.314 | -1.729 | 3.314 | DCAKD          | Homo sapiens diaphospho-CoA kinase domain containing [DCAKD], transcript variant 1, mRNA [NM.020318]               |
| A.23.P16722    | down | -3.312 | -1.728 | 3.312 | DOCK10         | Homo sapiens dock10, a member of the DOCK family [DOCK10], transcript variant 1, mRNA [NM.014688]                  |
| A.23.P147841   | down | -3.310 | -1.727 | 3.310 | TGFA2          | Homo sapiens transcription elongation factor A [SII, 2] [TGFA2], transcript variant 1, mRNA [NM.003195]            |
| A.32.P149248   | down | -3.310 | -1.727 | 3.310 | KIAA1841       | Homo sapiens KIAA1841 [KIAA1841], transcript variant 1, mRNA [NM.00128993]   |
| A.32.P178459   | down | -3.308 | -1.726 | 3.308 | G18r68         | Homo sapiens chromosome 16 open reading frame 88 [G18r68], mRNA [NM.001012934]                                     |
| A.22.P00008816 | down | -3.308 | -1.726 | 3.308 | lnc-LAMA5-1    | LINCgadia lincRNA, linc-LAMA5-1, lincRNA [lnc-LAMA5-1]   |
| A.23.P2911335  | down | -3.305 | -1.725 | 3.305 | DBIL5P         | Homo sapiens dibenzamide binding inhibitor-like 5, asialoglycine [DBIL5P], non-coding RNA [NR.024120]              |
| A.23.P326109   | down | -3.304 | -1.724 | 3.304 | ZNF471         | Homo sapiens zinc finger protein 471 [ZNF471], mRNA [NM.0208183]   |
| A.22.P0002232  | down | -3.303 | -1.724 | 3.303 | RCL1           | Homo sapiens RNA terminal phosphate cyclase-like 1 [RCL1], transcript variant 1, mRNA [NM.005712]                  |
| A.23.P111462   | down | -3.303 | -1.724 | 3.303 | MOSP3          | Homo sapiens mobile sperm domain containing 3 [MOSP3], transcript variant 1, mRNA [NM.023848]                      |
| A.23.P136573   | down | -3.303 | -1.724 | 3.303 | STGAAL5        | Homo sapiens ST19 beta-galactoside alpha-2,3-sialyltransferase 5 [STGAAL5], transcript variant 1, mRNA [NM.005898] |
| A.32.P294576   | down | -3.301 | -1.723 | 3.301 | FABP5          | Homo sapiens fatty acid binding protein 5, gastrin-associated [FABP5], mRNA [NM.001444]                            |
| A.33.P3301095  | down | -3.299 | -1.722 | 3.299 | KLHL13         | Homo sapiens kelch-like family member 3 [KLHL13], transcript variant 1, mRNA [NM.033495]                           |
| A.23.P193974   | down | -3.298 | -1.722 | 3.298 | PAR2           | Homo sapiens par2 domain [G2427-2]-containing kinase 2 [PAR2], mRNA [NM.0202977]                                   |
| A.33.P3226553  | down | -3.298 | -1.722 | 3.298 | P-SMG3-AS1     | SMG3 [Source:HGNC Symbol;Acc:HGNC:22230]   |
| A.32.P382427   | down | -3.296 | -1.721 | 3.296 | EFCAB7         | EF-hand calcium binding domain 7 [Source:HGNC Symbol;Acc:HGNC:28379] [ENST00000461038]                             |
| A.32.P137266   | down | -3.294 | -1.720 | 3.294 | MB21D2         | Homo sapiens MB2-21 domain containing 2 [MB21D2], mRNA [NM.178468]   |
| A.32.P117464   | down | -3.293 | -1.719 | 3.293 | YAFDN3         | Homo sapiens YAF-DNase domain containing 3 [YAFDN3], transcript variant 5, mRNA [NM.00148171]                      |
| A.33.P3249773  | down | -3.287 | -1.717 | 3.287 | ZNF563         | Homo sapiens zinc finger protein 563 [ZNF563], mRNA [NM.145278]  |
| A.33.P3262485  | down | -3.287 | -1.717 | 3.287 | FAM110C        | Homo sapiens family with sequence similarity 110, member C [FAM110C], mRNA [NM.00107710]                           |
| A.32.P427643   | down | -3.286 | -1.716 | 3.286 | NFE2L1         | Homo sapiens nuclear factor, erythroid 2-like 1 [NFE2L1], mRNA [NM.003294]   |
| A.24.P2191542  | down | -3.285 | -1.716 | 3.285 | TBC1D88        | Homo sapiens TBC1 domain family, member 88 (with GRAM domain) [TBC1D88], transcript variant 2, mRNA [NM.198881]    |
| A.33.P3318852  | down | -3.285 | -1.716 | 3.285 | lnc-C20orf94-1 | LINCgadia lincRNA, lnc-C20orf94-1, lincRNA [lnc-C20orf94-1]  |
| A.22.P00002734 | down | -3.277 | -1.713 | 3.277 | NASP           | Homo sapiens nuclear autoantigen sperm protein (histone-binding) [NASP], transcript variant 2, mRNA [NM.002482]    |
| A.21.P0011148  | down | -3.276 | -1.712 | 3.276 | GRTC1          | Homo sapiens GRTEB regulated transcription coactivator 1 [GRTC1], transcript variant 3, mRNA [NM.00109446]         |
| A.19.P00811284 | down | -3.275 | -1.711 | 3.275 | TM2SF3         | Homo sapiens transmembrane 2, specifically member 3 [TM2SF3], mRNA [NM.016551]                                     |
| A.33.P3420204  | down | -3.272 | -1.710 | 3.272 | XPR1           | Homo sapiens xenotropic and polytropic retrovirus receptor 1 [XPR1], transcript variant 1, mRNA [NM.004738]        |
| A.33.P3271500  | down | -3.269 | -1.709 | 3.269 | ERCH2          | Homo sapiens glutamate-rich 2 [ERCH2], transcript variant 1, mRNA [NM.001290030]                                   |
| A.23.P427657   | down | -3.268 | -1.708 | 3.268 | PLACA4A        | Homo sapiens phospholipase A2, group IVA (cytosolic, calcium-dependent) [PLA2G4A], mRNA [NM.024420]                |
| A.24.P336417   | down | -3.265 | -1.707 | 3.265 | GBPI           | Homo sapiens guanylate binding protein 1, interferon-inducible [GBP1], mRNA [NM.002055]                            |
| A.21.P0002314  | down | -3.264 | -1.707 | 3.264 | C8orf437-AS1   | Homo sapiens C8orf437 antisense RNA 1 [C8orf437-AS1], transcript variant 1, mRNA [NM.018418]                       |
| A.23.P11685    | down | -3.261 | -1.705 | 3.261 | inc-NUMB-2     | BX.001396 Soares, testis, NHT Homo sapiens cDNA clone IMAGE698D114108, mRNA sequence [BX.001396]                   |
| A.23.P328280   | down | -3.259 | -1.705 | 3.259 | LOC333988      | PREDICTED: Homo sapiens uncharacterized LOC333988 [P1-3501.02], misc RNA [XR.249565]                               |
| A.21.P0000723  | down | -3.259 | -1.704 | 3.259 | DBZ            | Homo sapiens database-specific DNA binding protein 2, 48kDa [DBZ], mRNA [NM.000107]                                |
| A.32.P34287    | down | -3.258 | -1.704 | 3.258 | LRRRC8         | Homo sapiens leucine rich repeat containing 8 family, member 8 [LRRRC8], transcript variant 1, mRNA [NM.015356]    |
| A.24.P401768   | down | -3.256 | -1.703 | 3.256 | AMOTL1         | Homo sapiens amotlike 1 [AMOTL1], transcript variant 1, mRNA [NM.138847]   |
| A.33.P3320882  | down | -3.255 | -1.703 | 3.255 | NFB            | Homo sapiens nuclear factor, kappa B [NFB], transcript variant 3, mRNA [NM.005586]                                 |
| A.24.P317108   | down | -3.252 | -1.701 | 3.252 | SDR16C5        | Homo sapiens short chain dehydrogenase/reductase family 16C, member 5 [SDR16C5], mRNA [NM.138968]                  |
| A.23.P108673   | down | -3.250 | -1.700 | 3.250 | EVAI1A         | Homo sapiens evo-1 homolog A (C. elegans) [EVA1A], transcript variant 4, mRNA [NM.032818]                          |
| A.23.P134125   | down | -3.248 | -1.699 | 3.248 | MAP3K5         | Homo sapiens mitogen-activated protein kinase kinase kinase 5 [MAP3K5], mRNA [NM.005923]                           |
| A.24.P246841   | down | -3.248 | -1.699 | 3.248 | SLC25A27       | Homo sapiens solute carrier family 25, member 27 [SLC25A27], transcript variant 1, mRNA [NM.004277]                |
| A.21.P0015071  | down | -3.246 | -1.698 | 3.246 | DLG2           | BROAD Institute lincRNA, lincLOC12012925, lincRNA [LCONS12_0024674]  |
| A.33.P3245006  | down | -3.245 | -1.698 | 3.245 | DAK            | Homo sapiens diaphospho-CoA kinase 2 homolog 5 (S. cerevisiae) [DAK], mRNA [NM.015533]                             |
| A.33.P3245051  | down | -3.245 | -1.698 | 3.245 | MYLIP          | Homo sapiens myosin regulatory light chain interacting protein [MYLIP], mRNA [NM.019282]                           |
| A.33.P3253914  | down | -3.241 | -1.697 | 3.241 | GYSD1          | Homo sapiens GYSD1 non-satur domain 1 [GYSD1], mRNA [NM.018464]  |
| A.24.P38734    | down | -3.239 | -1.695 | 3.239 | ZNF393B        | Homo sapiens zinc finger protein 393B [ZNF393B], mRNA [NM.003507]  |
| A.23.P329449   | down | -3.238 | -1.695 | 3.238 | ZNF393A        | Homo sapiens zinc finger protein 393A [ZNF393A], mRNA [NM.003507]  |
| A.21.P331667   | down | -3.237 | -1.692 | 3.237 | ZNF518A        | Homo sapiens zinc finger protein 518A [ZNF518A], mRNA [NM.003431]  |
| A.33.P3651975  | down | -3.234 | -1.693 | 3.234 | ZNF517A        | Homo sapiens zinc finger protein 517A [ZNF517A], transcript variant 3, mRNA [NM.003451]                            |
| A.24.P188388   | down | -3.233 | -1.693 | 3.233 | ZNF382         | Homo sapiens zinc finger protein 382 [ZNF382], transcript variant 1, mRNA [NM.032825]                              |
| A.33.P3315129  | down | -3.232 | -1.692 | 3.232 | KDM4C          | Homo sapiens lysine (K)-specific demethylase 4C [KDM4C], transcript variant 4, mRNA [NM.00146896]                  |
| A.22.P00008601 | down | -3.232 | -1.692 | 3.232 | GLIAP1         | Homo sapiens gliastem associated protein 1 [GLIAP1], transcript variant 1, mRNA [NM.015041]                        |

|                 |        |        |       |      |              |  |
|-----------------|--------|--------|-------|------|--------------|--|
| A_33_P0381288   | -3.200 | -1.681 | 3.200 | down | FAM201A      | Homo sapiens family with sequence similarity 201, member A (FAM201A), long non-coding RNA [NR_027284]  |
| A_33_P03910827  | -3.228 | -1.680 | 3.228 | down | SLC22A27     | Homo sapiens cDNA FLJ19124, fig. clone NTONG2007028, [AK091443]  |
| A_33_P0412468   | -3.227 | -1.680 | 3.227 | down | LAMP2        | Homo sapiens solid carrier family 25, member 27 (SLC22A27), transcript variant 1, mRNA [NM_004277]   |
| A_22_P000004712 | -3.227 | -1.680 | 3.227 | down | LAMP2        | Homo sapiens uncharacterized LOC100506844 (LOC100506844), long non-coding RNA [NR_039269]  |
| A_24_P0398231   | -3.223 | -1.680 | 3.223 | down | LAMP2        | Homo sapiens lysosomal-associated membrane protein 2 (LAMP2), transcript variant A, mRNA [NM_002295]   |
| A_24_P045209    | -3.221 | -1.688 | 3.221 | down | DYRK3        | Homo sapiens dual-specific tyrosine-(Y)-phosphorylation regulated kinase 3 (DYRK3), transcript variant 2, mRNA [NM_0104023]                    |
| A_23_P020713    | -3.221 | -1.687 | 3.221 | down | ALDH3A1      | Homo sapiens aldehyde dehydrogenase 3 family, member A1 (ALDH3A1), transcript variant 2, mRNA [NM_008931]                                      |
| A_33_P0222860   | -3.217 | -1.686 | 3.217 | down | CARD6        | Homo sapiens caspase recruitment domain family member 6 (CARD6), mRNA [NM_032687]  |
| A_23_P041834    | -3.214 | -1.685 | 3.214 | down | RPN1         | Homo sapiens long interspersed non-protein coding RNA 138 (LINCO138), transcript variant 1, long non-coding RNA [NR_027488]                    |
| A_33_P0387016   | -3.214 | -1.684 | 3.214 | down | LINC01138    | Homo sapiens long interspersed non-protein coding RNA 138 (LINCO138), transcript variant 1, long non-coding RNA [NR_027488]                    |
| A_21_P0000059   | -3.214 | -1.684 | 3.214 | down | SOX6         | Homo sapiens SOX (sex-determining region Y)-box 6 (SOX6), transcript variant 1, mRNA [NM_017508]   |
| A_33_P0233016   | -3.214 | -1.684 | 3.214 | down | SLC22A37     | soluble carrier family 25 (mitochondrial iron transporter), member 37 [Source:HGNC Symbol;Acc:HGNC:29786] [ENS:00000519973]                    |
| A_24_P04100     | -3.212 | -1.684 | 3.212 | down | CRNDE        | Homo sapiens cerebellar neoplasia differentially expressed (non-protein coding) (CRNDE), transcript variant 3, long non-coding RNA [NR_110465] |
| A_19_P00022533  | -3.211 | -1.683 | 3.211 | down | SLC38A11     | Homo sapiens solid carrier family 38, member 11 (SLC38A11), transcript variant 2, mRNA [NM_138177]   |
| A_24_P07528     | -3.211 | -1.683 | 3.211 | down | HOMER1       | Homo sapiens homer homolog 1 (Drosophila) (HOMER1), transcript variant 1, mRNA [NM_042572]   |
| A_33_P0327257   | -3.211 | -1.683 | 3.211 | down | TMTC3        | Homo sapiens transmembrane and tetra-acylglycerol repeat containing 3 (TMTC3), mRNA [NM_181783]  |
| A_24_P031266    | -3.210 | -1.683 | 3.210 | down | MM32ZL       | Homo sapiens MM32Z-like DNA repair protein (MM32Z), mRNA [NM_194469]   |
| A_24_P03078     | -3.208 | -1.681 | 3.208 | down | ST3K3C       | Homo sapiens tyrosine kinase 32C (Source:HGNC Symbol;Acc:HGNC:33213) [ENS:00000458004]   |
| A_21_P0014286   | -3.202 | -1.679 | 3.202 | down | LINC00476    | Homo sapiens long interspersed non-protein coding RNA 476 (LINCO0476), transcript variant 1, long non-coding RNA [NR_023930]                   |
| A_33_P02119245  | -3.202 | -1.679 | 3.202 | down | RAB11B-AS1   | Homo sapiens RAB11B antisense RNA 1 (RAB11B-AS1), long non-coding RNA [NR_038237]  |
| A_21_P0000732   | -3.201 | -1.679 | 3.201 | down | ZBTB78A      | Homo sapiens zinc finger and BTB domain containing 8A (ZBTB78A), transcript variant 1, mRNA [NM_01040444]                                      |
| A_33_P0477573   | -3.201 | -1.679 | 3.201 | down | ARL4A        | Homo sapiens ADP-ribosylation factor-like 4A (ARL4A), transcript variant 1, mRNA [NM_005238]   |
| A_32_P008941    | -3.201 | -1.678 | 3.201 | down | CHCHD10      | Homo sapiens coiled-coil-helix-coiled-coil-helix domain containing 10 (CHCHD10), transcript variant 2, mRNA [NM_213720]                        |
| A_24_P00681     | -3.200 | -1.678 | 3.200 | down | MEGF9        | Homo sapiens multiple EGF-like domains 9 (MEGF9), mRNA [NM_001080497]  |
| A_32_P12984     | -3.199 | -1.678 | 3.199 | down | CCDC113      | Homo sapiens coiled-coil domain containing 113 (CCDC113), transcript variant 1, mRNA [NM_014157]   |
| A_24_P07320     | -3.199 | -1.678 | 3.199 | down | PLANE1       | Homo sapiens plectin B2 (PLANE1), mRNA [NM_012401]   |
| A_33_P0321856   | -3.199 | -1.678 | 3.199 | down | MDM1         | Homo sapiens Mdm1 nuclear protein homolog (mouse) (MDM1), transcript variant 1, mRNA [NM_017446]   |
| A_23_P0413180   | -3.198 | -1.677 | 3.198 | down | ED2B         | EP300 interacting inhibitor of differentiation 2B [Source:HGNC Symbol;Acc:HGNC:26786]  |
| A_23_P068259    | -3.197 | -1.677 | 3.197 | down | ZBTB7C       | Homo sapiens zinc finger and BTB domain containing 7C (ZBTB7C), mRNA [NM_001039380]  |
| A_33_P0420384   | -3.195 | -1.676 | 3.195 | down | ZNF462       | Homo sapiens zinc finger protein 462 (ZNF462), mRNA [NM_01472244]  |
| A_24_P004049    | -3.194 | -1.675 | 3.194 | down | LOC101927841 | PREDICTED: Homo sapiens uncharacterized LOC101927841 (LOC101927841), transcript variant X4, cDNA [XR_426108]                                   |
| A_22_P00008144  | -3.194 | -1.675 | 3.194 | down | NFATC1       | Homo sapiens nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1 (NFATC1), transcript variant 3, mRNA [NM_172387]        |
| A_23_P00150     | -3.191 | -1.674 | 3.191 | down | KLF13        | Homo sapiens Kruppel-like factor 13 (KLF13), transcript variant 1, mRNA [NM_015995]  |
| A_32_P197469    | -3.189 | -1.673 | 3.189 | down | REEP3        | Homo sapiens receptor accessory protein 5 (REEP5), mRNA [NM_005669]  |
| A_23_P030045    | -3.188 | -1.673 | 3.188 | down | PREDICTED    | PREDICTED: Homo sapiens uncharacterized LOC100128340 (PPT1-423H2.3), miscRNA [XR_427818]   |
| A_21_P0012866   | -3.187 | -1.672 | 3.187 | down | PRDM2        | Homo sapiens PR domain containing 2, with ZNF domain (PRDM2), transcript variant 1, mRNA [NM_012231]   |
| A_23_P001979    | -3.187 | -1.672 | 3.187 | down | INC-APLN-1   | LINCpella lincRNA (inc-APLN-1), lincRNA [inc-APLN-1-1]   |
| A_21_P0008549   | -3.186 | -1.672 | 3.186 | down | NTN5         | netrin 5 [Source:HGNC Symbol;Acc:HGNC:29208] [ENS:00000270235]   |
| A_32_P038451    | -3.186 | -1.672 | 3.186 | down | INC-GAST-4   | LINCpella lincRNA (inc-GAST-4), lincRNA [inc-GAST-4-1]   |
| A_22_P00003354  | -3.185 | -1.671 | 3.185 | down | KIF26B       | Homo sapiens kinesin family member 26B (KIF26B), mRNA [NM_018012]  |
| A_33_P0392565   | -3.185 | -1.671 | 3.185 | down | VPREB3       | Homo sapiens pro-B lymphocyte 3 (VPREB3), mRNA [NM_013378]   |
| A_33_P0292254   | -3.185 | -1.671 | 3.185 | down | BAPAP2-AS1   | Homo sapiens BAPAP2 antisense RNA 1 (head to head) (BAPAP2-AS1), long non-coding RNA [NR_028557]   |
| A_19_P00808774  | -3.184 | -1.671 | 3.184 | down | THAP2        | Homo sapiens THAP domain containing, apoptosis associated protein 2 (THAP2), mRNA [NM_031435]  |
| A_24_P026437    | -3.183 | -1.671 | 3.183 | down | SLC22A4      | Homo sapiens solute carrier family 20, member 4 (SLC22A4), mRNA [NM_0103289]   |
| A_24_P12145     | -3.180 | -1.669 | 3.180 | down | SUSDA        | South domain containing 4 [Source:HGNC Symbol;Acc:HGNC:25420] [ENS:0000034943]   |
| A_24_P161268    | -3.179 | -1.668 | 3.179 | down | ZNF785       | Homo sapiens zinc finger protein 785 (ZNF785), mRNA [NM_132458]  |
| A_33_P0327657   | -3.177 | -1.668 | 3.177 | down | ZNF503       | Homo sapiens zinc finger protein 503 (ZNF503), transcript variant 1, mRNA [NM_032772]  |
| A_33_P028416    | -3.172 | -1.665 | 3.172 | down | NECD9        | Homo sapiens neural precursor cell expressed, developmentally down-regulated 9 (NECD9), transcript variant 2, mRNA [NM_182966]                 |
| A_33_P0282465   | -3.168 | -1.663 | 3.168 | down | IVNS1ABP     | Homo sapiens influenza virus NS1 binding protein (IVNS1ABP), mRNA [NM_008468]  |
| A_33_P0386256   | -3.166 | -1.663 | 3.166 | down | TMEM165      | Homo sapiens transmembrane protein 165 (TMEM165), transcript variant 1, mRNA [NM_018475]   |
| A_33_P0280975   | -3.166 | -1.662 | 3.166 | down | IFT74        | Homo sapiens chromosome 15 open reading frame 65 (ORF65), mRNA [NM_001187794]  |
| A_24_P043381    | -3.166 | -1.662 | 3.166 | down | LYPLAL1      | Homo sapiens intracellular transport 74 (IFT74), transcript variant 1, mRNA [NM_025103]  |
| A_23_P055714    | -3.165 | -1.662 | 3.165 | down | XLOC12108221 | Homo sapiens lysophospholipase-like 1 (LYPLAL1), transcript variant 1, mRNA [NM_138794]  |
| A_33_P0357103   | -3.165 | -1.662 | 3.165 | down | HAUS3        | BROAD domain-like complex, subunit 3 [Source:HGNC Symbol;Acc:HGNC:28719] [ENS:000002643768]  |
| A_21_P001958    | -3.161 | -1.660 | 3.161 | down | POU3         | Homo sapiens POU class 3 transcription factor 3 (POU3), mRNA [NM_004326]   |
| A_33_P0383062   | -3.160 | -1.660 | 3.160 | down | SP7          | Homo sapiens POU class 7 transcription factor 7 (POU7F1), transcript variant 1, mRNA [NM_144586]   |
| A_32_P101031    | -3.159 | -1.659 | 3.159 | down | PSMB8-AS1    | Symbol:Acc:HGNC:11623 [ENS:0000068590] [Source:HGNC Symbol;Acc:HGNC:11623]   |
| A_21_P0008117   | -3.158 | -1.659 | 3.158 | down | ZNF678       | Homo sapiens zinc finger protein 678 (ZNF678), transcript variant 1, mRNA [NM_178146]  |
| A_22_P00007171  | -3.157 | -1.658 | 3.157 | down | HMG2         | Homo sapiens high mobility group nucleosomal binding domain 2 (HMG2), mRNA [NM_005517]   |
| A_19_P0037449   | -3.157 | -1.658 | 3.157 | down |              |  |
| A_32_P041487    | -3.157 | -1.658 | 3.157 | down |              |  |



|                |      |        |       |              |   |
|----------------|------|--------|-------|--------------|---|
| A.24.P108291   | down | -1.618 | 3.068 | IMPACT       | Homo sapiens impact_RWD domain protein (IMPACT), mRNA [NM_018439]   |
| A.21.P001169   | down | -1.617 | 3.068 | BROAD        | Broad Institute lincRNA_XLOC1213267, lincRNA [TCNS.12.00226626]   |
| A.23.P145895   | down | -1.617 | 3.068 | TP33TG1      | Homo sapiens TP33 target 1 (non-protein coding), [TP33TG1], long non-coding RNA [NR_015881]                     |
| A.22.P00015031 | down | -1.616 | 3.065 | HOKX-AS3     | Homo sapiens HOKX cluster antisense RNA 3 (HOKX-AS3), long non-coding RNA [NR_047066]                           |
| A.22.P52081    | down | -1.615 | 3.062 | OSBP1.5      | Homo sapiens oxysterol binding protein-like 5 (OSBP1.5), transcript variant 1, mRNA [NM_026986]                 |
| A.33.P326432   | down | -1.615 | 3.062 | ITGA10       | Homo sapiens integrin, alpha 10 (ITGA10), transcript variant 1, mRNA [NM_003637]                                |
| A.22.P00064931 | down | -1.614 | 3.062 | linc-DBX1-1  | lincRNA [linc-DBX1-1]   |
| A.21.P00121649 | down | -1.614 | 3.060 | XLOC1211649  | Broad Institute lincRNA_XLOC1211649, lincRNA [TCNS.12.0022387]  |
| A.23.P252381   | down | -1.613 | 3.059 | AGE2         | Homo sapiens angiotensin converting enzyme 2 (AGE2), mRNA [NM_021804]   |
| A.22.P0014766  | down | -1.612 | 3.058 | LOC101060891 | Homo sapiens uncharacterized LOC101060891 (LOC101060891), long non-coding RNA [NR_10174]                        |
| A.33.P326430   | down | -1.612 | 3.058 | LOC101060892 | Homo sapiens uncharacterized LOC101060892 (LOC101060892), long non-coding RNA [NR_026945]                       |
| A.33.P326431   | down | -1.612 | 3.058 | TRIM66       | Homo sapiens separate motif containing 66 (TRIM66), mRNA [NM_014619]  |
| A.32.P306156   | down | -1.612 | 3.056 | SHMT1        | Homo sapiens separate motif containing 66 (SHMT1), transcript variant 1, mRNA [NM_004169]                       |
| A.23.P502654   | down | -1.611 | 3.055 | POLR1D       | Homo sapiens polymerase (RNA) I polypeptide D, 180Da (POLR1D), transcript variant 2, mRNA [NM_152705]           |
| A.23.P409541   | down | -1.611 | 3.055 | CASC5        | Homo sapiens cancer susceptibility candidate 5 (non-protein coding) (CASC5), long non-coding RNA [NR_015410]    |
| A.24.P083648   | down | -1.610 | 3.053 | ITGAM        | Homo sapiens integrin, alpha M (complement component 3 subunit) (ITGAM), transcript variant 2, mRNA [NM_000632] |
| A.23.P124108   | down | -1.610 | 3.052 | TMEM161B-AS1 | Homo sapiens TMEM161B antisense RNA 1 (TMEM161B-AS1), transcript variant 4, long non-coding RNA [NR_105019]     |
| A.21.P0004517  | down | -1.609 | 3.050 | linc-COHR1-1 | lincRNA [linc-COHR1-1]  |
| A.21.P0005161  | down | -1.608 | 3.049 | CD14         | Homo sapiens CD14 molecule (CD14), transcript variant 3, mRNA [NM_001174104]                                    |
| A.21.P000121   | down | -1.608 | 3.048 | CD14         | Homo sapiens CD14 molecule (CD14), transcript variant 3, mRNA [NM_001174104]                                    |
| A.33.P326430B  | down | -1.607 | 3.047 | ANKMY1       | Homo sapiens ankyrin repeat and MYND domain containing 1 (ANKMY1), transcript variant 2, mRNA [NM_026469]       |
| A.21.P0001153  | down | -1.607 | 3.046 | ANKMY1       | Homo sapiens ankyrin repeat and MYND domain containing 1 (ANKMY1), transcript variant 2, mRNA [NM_026469]       |
| A.33.P3029247  | down | -1.606 | 3.045 | NRM          | Homo sapiens nuclear envelope membrane protein (NRM), transcript variant 1, mRNA [NM_012845]                    |
| A.23.P09055    | down | -1.606 | 3.045 | NRM          | Homo sapiens nuclear envelope membrane protein (NRM), transcript variant 1, mRNA [NM_012845]                    |
| A.32.P322234   | down | -1.606 | 3.045 | COL6A1       | Homo sapiens collagen, type VI, alpha 1 (COL6A1), mRNA [NM_001848]  |
| A.33.P338796   | down | -1.606 | 3.044 | PHLDB1       | Homo sapiens electron homology-like domain, family B, member 1 (PHLDB1), transcript variant 1, mRNA [NM_015157] |
| A.23.P140876   | down | -1.606 | 3.044 | ABCA3        | Homo sapiens ATP-binding cassette, sub-family A (ABC1), member 3 (ABCA3), mRNA [NM_001089]                      |
| A.23.P140427   | down | -1.606 | 3.044 | EVL          | Homo sapiens Enh1/Asap-like (EVL), mRNA [NM_016337]   |
| A.33.P2400943  | down | -1.605 | 3.043 | CDIPT        | Homo sapiens cell death-inducing p53 target 1 (CDIPT), transcript variant 1, mRNA [NM_001190654]                |
| A.21.P0006675  | down | -1.605 | 3.042 | ZNF451       | ALU1_HUMAN (P09188) Alu subfamily J sequence contamination warning entry, partial (1%) [TH2261727]              |
| A.33.P3257523  | down | -1.605 | 3.041 | ZNF451       | Homo sapiens zinc finger protein 451 (ZNF451), transcript variant 3, mRNA [NM_001257273]                        |
| A.33.P330255   | down | -1.604 | 3.040 | ITIH2B       | Homo sapiens sDNA FL45109 fos, clone BRAHW5934697 (AK127052)  |
| A.33.P330255   | down | -1.604 | 3.040 | ITIH2B       | Homo sapiens integral membrane protein 2B (ITIH2B), mRNA [NM_021199]  |
| A.21.P0000737  | down | -1.602 | 3.036 | ZNF571-AS1   | Homo sapiens ZNF571 antisense RNA 1 (ZNF571-AS1), transcript variant 1, long non-coding RNA [NR_038247]         |
| A.23.P379375   | down | -1.602 | 3.036 | PHRF24       | Homo sapiens ZNF4-dehydrocholesterol reductase (PHRF24), mRNA [NM_014792]                                       |
| A.23.P379376   | down | -1.602 | 3.036 | PHRF24       | Homo sapiens ZNF4-dehydrocholesterol reductase (PHRF24), mRNA [NM_014792]                                       |
| A.21.P001603   | down | -1.602 | 3.032 | ZNF61        | Homo sapiens zinc finger protein 61 (ZNF61), transcript variant 1, mRNA [NM_001001293]                          |
| A.24.P16810    | down | -1.600 | 3.032 | ZNF61        | Homo sapiens zinc finger protein 61 (ZNF61), transcript variant 1, mRNA [NM_001001293]                          |
| A.33.P3281028  | down | -1.600 | 3.032 | MARGR02      | Homo sapiens MARGR domain containing 2 (MARGR02), transcript variant 1, mRNA [NM_080676]                        |
| A.23.P416751   | down | -1.600 | 3.031 | ZNF610       | Homo sapiens zinc finger protein 610 (ZNF610), transcript variant 3, mRNA [NM_173630]                           |
| A.23.P73721    | down | -1.600 | 3.031 | RRAGB        | Homo sapiens Ras-related GTP binding, B (RRAGB), transcript variant, PABG1, mRNA [NM_016856]                    |
| A.33.P3415560  | down | -1.600 | 3.031 | ZFP92        | Homo sapiens ZFP92 zinc finger protein (ZFP92), mRNA [NM_133446]  |
| A.23.P136196   | down | -1.599 | 3.029 | TBC1D19      | Homo sapiens TBC1 domain family, member 19 (TBC1D19), transcript variant 1, mRNA [NM_018317]                    |
| A.24.P187864   | down | -1.598 | 3.027 | TRIM14       | Homo sapiens tripartite motif containing 14 (TRIM14), transcript variant 1, mRNA [NM_014788]                    |
| A.24.P32215    | down | -1.598 | 3.027 | ZDHHC14      | ADP-ribosylation factor-like 4 pseudogene (SourceHGNC Symbol:AcHGNC17741) [ENST00000503290]                     |
| A.23.P250619   | down | -1.598 | 3.026 | ZDHHC14      | Homo sapiens zinc finger, DHHC-type containing 14 (ZDHHC14), transcript variant 2, mRNA [NM_157446]             |
| A.24.P195081   | down | -1.597 | 3.025 | CCDC171      | Homo sapiens coiled-coil domain containing 171 (CCDC171), mRNA [NM_173550]                                      |
| A.23.P194176   | down | -1.597 | 3.024 | SO2          | Homo sapiens superoxide dismutase 2, mitochondrial (SOD2), transcript variant 2, mRNA [NM_00124485]             |
| A.21.P501582   | down | -1.596 | 3.024 | LOC102724715 | PREDICTED: Homo sapiens uncharacterized LOC102724715 (LOC102724715), mRNA [XR_424811]                           |
| A.23.P124144   | down | -1.595 | 3.022 | LOC102724715 | PREDICTED: Homo sapiens uncharacterized LOC102724715 (LOC102724715), mRNA [XR_424811]                           |
| A.23.P124144   | down | -1.595 | 3.022 | LOC102724715 | PREDICTED: Homo sapiens uncharacterized LOC102724715 (LOC102724715), mRNA [XR_424811]                           |
| A.23.P30562    | down | -1.595 | 3.021 | SESN1        | Homo sapiens selenocysteine 1 (SESN1), transcript variant 1, mRNA [NM_014464]                                   |
| A.21.P0000893  | down | -1.594 | 3.020 | IOGH-AS1     | Homo sapiens IOGH antisense RNA 1 (IOGH-AS1), transcript variant 1, long non-coding RNA [NR_040051]             |
| A.21.P0002390  | down | -1.594 | 3.019 | DNAJC27-AS1  | Homo sapiens DNAJC27 antisense RNA 1 (DNAJC27-AS1), long non-coding RNA [NR_034113]                             |
| A.23.P419114   | down | -1.594 | 3.018 | BTBD11       | Homo sapiens BTB (POZ) domain containing 11 (BTBD11), transcript variant a, mRNA [NM_001018072]                 |
| A.24.P456400   | down | -1.593 | 3.017 | C1orf204     | Homo sapiens chromosome 1 open reading frame 204 (C1orf204), mRNA [NM_001134233]                                |
| A.32.P87568    | down | -1.593 | 3.016 | ENAH         | Homo sapiens enabled homolog (Drosophila) (ENAH), transcript variant 1, mRNA [NM_001084893]                     |
| A.23.P12572    | down | -1.592 | 3.015 | CASP7        | Homo sapiens caspase 7, apoptosis-related cysteine peptidase (CASP7), transcript variant d, mRNA [NM_033338]    |
| A.33.P321655   | down | -1.592 | 3.015 | CHRN2B       | Homo sapiens cholinergic receptor, nicotinic, beta 2 (neuronal) (CHRN2B), mRNA [NM_000748]                      |
| A.24.P111134   | down | -1.591 | 3.013 | POMT2        | Homo sapiens protein-O-mannosyltransferase 2 (POMT2), mRNA [NM_016382]  |
| A.23.P197116   | down | -1.591 | 3.013 | ZNF697       | Homo sapiens zinc finger protein 697 (ZNF697), mRNA [NM_001086470]  |
| A.33.P332629   | down | -1.590 | 3.011 | linc-GFM1-1  | lincRNA [linc-GFM1-1]   |
| A.33.P327583   | down | -1.590 | 3.010 | RANOS        | Homo sapiens RanBP180 containing 3 (RANOS), transcript variant 2, mRNA [NM_024742]                              |
| A.21.P0002189  | down | -1.589 | 3.010 | TRIM22       | Homo sapiens tripartite motif containing 22 (TRIM22), transcript variant 1, mRNA [NM_001262468]                 |
| A.21.P0002189  | down | -1.589 | 3.010 | TRIM22       | Homo sapiens tripartite motif containing 22 (TRIM22), transcript variant 1, mRNA [NM_001262468]                 |
| A.33.P3211634  | down | -1.589 | 3.009 | PPI6B        | Homo sapiens protein tyrosine phosphatase, cytoplasmic-like 6 (PPI6B), transcript variant 4, mRNA [NM_01283831] |
| A.23.P23811    | down | -1.589 | 3.009 | AMYL1C       | Homo sapiens amylase, alpha 1C (salivary) (AMYL1C), mRNA [NM_001082181]   |
| A.23.P50786    | down | -1.589 | 3.008 | CLIP3        | Homo sapiens CAP-CLY domain containing linker protein 3 (CLIP3), transcript variant 2, mRNA [NM_015526]         |
| A.23.P307855   | down | -1.589 | 3.008 | SIRT5        | Homo sapiens sirtuin 5 (SIRT5), transcript variant 2, mRNA [NM_031244]  |

|                |      |        |       |              |   |
|----------------|------|--------|-------|--------------|---|
| A.32.P06106    | down | -1.589 | 3.008 | ANKRD42      | Homo sapiens ankyrin repeat domain 42 (ANKRD42), transcript variant 4, mRNA [NM 182603]   |
| A.23.P26444    | down | -1.588 | 3.006 | RDH16        | Homo sapiens retinal dehydrogenase 16 (all-trans), (RDH16), mRNA [NM 033708]  |
| A.23.P20260    | down | -1.588 | 3.006 | RYR2         | Homo sapiens ryanodine receptor 2, subfamily 2, ryanodine 1 (RYR2), mRNA [NM 024514]  |
| A.33.P341098   | down | -1.588 | 3.005 | LOC100193950 | Homo sapiens uncharacterized LOC100193950 (LOC100193950), long non-coding RNA [NR 024618]   |
| A.33.P379280   | down | -1.588 | 3.005 | LOC102723892 | long intergenic non-protein coding RNA 883 [Source:HGNC Symbol;Acc:HGNC:45162] [ENS:TM000049595]                                  |
| A.33.P326723   | down | -1.587 | 3.004 | ZKSCAN4      | Homo sapiens zinc finger with KRAB and SCAN domains 4 (ZKSCAN4), mRNA [NM 019110]   |
| A.32.P72443    | down | -1.585 | 3.001 | FGF4-AS2     | Homo sapiens FGF 4 antisense RNA 2 (FGF4-AS2), long non-coding RNA [NR 036487]  |
| A.23.P300301   | down | -1.585 | 3.000 | LOC101060179 | Homo sapiens fibroblast growth factor receptor 3 (FGFR3), transcript variant 1, mRNA [NM 000142]                                  |
| A.23.P317198   | down | -1.584 | 2.998 | MFP1         | PREDICTED: Homo sapiens uncharacterized LOC101060179 (LOC101060179), mRNA [XM 003999592]  |
| A.23.P171667   | down | -1.583 | 2.996 | ELOVL5       | Homo sapiens membrane protein, palmitoylated 1, 580a (MFP1), transcript variant 1, mRNA [NM 028430]                               |
| A.33.P348965   | down | -1.582 | 2.994 | DOB2         | Homo sapiens ELOVL fatty acid elongase 5 (ELOVL5), transcript variant 1, mRNA [NM 021814]   |
| A.33.P3263639  | down | -1.581 | 2.993 | DISP1        | Homo sapiens disintegrin specific DNA binding protein 2, 48kDa (DOB2), transcript variant D1, mRNA [NM 001300734]                 |
| A.23.P201319   | down | -1.580 | 2.991 | TSCA10       | Homo sapiens tescin specific, 10 (TSCA10), transcript variant 1, mRNA [NM 026244]   |
| A.33.P3309849  | down | -1.580 | 2.991 | LOC1001382   | Homo sapiens disintegrated homolog 1 (Discepolin), (DISP1), mRNA [NM 032490]  |
| A.21.P0011362  | down | -1.580 | 2.990 | GOLGA8B      | Homo sapiens golgin A8 family, member B (GOLGA8B), mRNA [NM 001292484]  |
| A.21.P0011624  | down | -1.580 | 2.990 | LINC01125    | Homo sapiens long intergenic non-protein coding RNA 1125 (LINC01125), long non-coding RNA [NR 0338388]                            |
| A.33.P3211443  | down | -1.580 | 2.989 | LRRGB8       | Homo sapiens leucine rich repeat containing 8 family, member B (LRRGB8), transcript variant 1, mRNA [NM 019350]                   |
| A.24.P391622   | down | -1.579 | 2.988 | ZNF512       | PREDICTED: Homo sapiens zinc finger protein 720 (ZNF 720), transcript variant 1, mRNA [NM 0392434]                                |
| A.21.P0011427  | down | -1.579 | 2.988 | ZNF720       | Homo sapiens zinc finger protein 512 (ZNF512), transcript variant 1, mRNA [NM 0392434]  |
| A.23.P35336    | down | -1.579 | 2.988 | WMO1         | Homo sapiens vitelline membrane outer layer 1 homolog (chicken) (WMO1), transcript variant 1, mRNA [NM 029251222]                 |
| A.23.P257639   | down | -1.579 | 2.988 | TTC248       | Homo sapiens tetratricopeptide repeat domain 26 (TTC248), transcript variant 1, mRNA [NM 024928]                                  |
| A.21.P0003010  | down | -1.579 | 2.988 | loc-FRG2-5   | LINC00162RNA (loc-FRG2-5), lincRNA [loc-FRG2-5:2]   |
| A.33.P331906   | down | -1.579 | 2.987 | PTPA43       | Homo sapiens protein tyrosine phosphatase type IVA, member 3 (PTPA43), transcript variant 1, mRNA [NM 032611]                     |
| A.21.P0000119  | down | -1.578 | 2.985 | SUCCT        | Homo sapiens succinyl-CoA:glutamate-CoA transferase (SUCCT), transcript variant 1, mRNA [NM 001193311]                            |
| A.23.P20275    | down | -1.578 | 2.985 | PCYOX1L      | Homo sapiens prolyl-4-hydroxylase oxidase 1, like (PCYOX1L), transcript variant 1, mRNA [NM 024028]                               |
| A.23.P217009   | down | -1.577 | 2.984 | Shar24       | Homo sapiens chromosome 9 open reading frame 24 (ORF24), transcript variant 1, mRNA [NM 0324586]                                  |
| A.33.P3333317  | down | -1.577 | 2.983 | OPTN         | Homo sapiens optineurin (OPTN), transcript variant 1, mRNA [NM 001088211]   |
| A.24.P310667   | down | -1.576 | 2.982 | ALDH8B2      | FGF-2 activity-associated protein 3 (FGF2AP3) [NM 00080313]   |
| A.23.P24311    | down | -1.576 | 2.982 | STEAP2       | Homo sapiens aldehyde dehydrogenase 3 family, member B2 (ALDH8B2), transcript variant 1, mRNA [NM 006995]                         |
| A.23.P242860   | down | -1.576 | 2.981 | LOC100283019 | Homo sapiens STEAP family member 2, metalloreductase (STEAP2), transcript variant 1, mRNA [NM 1529389]                            |
| A.31.P3003733  | down | -1.576 | 2.981 | loc-CCKAR-1  | LOC100283019RNA (loc-CCKAR-1), lincRNA [loc-CCKAR-1:1]  |
| A.21.P313384   | down | -1.575 | 2.980 | TUSC3        | Homo sapiens tumor suppressor 3 (TUSC3), mRNA [NM 001004126]  |
| A.24.P4018721  | down | -1.575 | 2.979 | TEU1X        | Homo sapiens TEU1 domain protein 1 (TEU1X), long non-coding RNA [NR 027267]   |
| A.24.P411705   | down | -1.574 | 2.978 | ZFP38L1      | Homo sapiens zinc finger protein 38-like 1 (ZFP38L1), transcript variant 1, mRNA [NM 026647]                                      |
| A.33.P3413885  | down | -1.574 | 2.977 | WD961        | Homo sapiens WD repeat domain 91 (WD961), mRNA [NM 014149]  |
| A.33.P3316493  | down | -1.573 | 2.974 | CXCL3        | Homo sapiens chemokine (C-X-C motif) ligand 3 (CXCL3), mRNA [NM 0020200]  |
| A.24.P183150   | down | -1.573 | 2.974 | HFSO1        | Homo sapiens major facilitator superfamily domain containing 1 (MFSO1), transcript variant 1, mRNA [NM 027238]                    |
| A.23.P166077   | down | -1.572 | 2.974 | HOCX11       | Homo sapiens homeobox C11 (HOCX11), mRNA [NM 0144212]   |
| A.23.P47941    | down | -1.572 | 2.973 | IL7R         | Homo sapiens interleukin 7 receptor (IL7R), transcript variant 1, mRNA [NM 002185]  |
| A.23.P404494   | down | -1.572 | 2.972 | AKAP3        | Homo sapiens A kinase (PRKA) anchor protein 3 (AKAP3), transcript variant 2, mRNA [NM 008492]                                     |
| A.23.P14035    | down | -1.571 | 2.971 | KIAI198B     | Homo sapiens KIAA198B (KIAA198B), transcript variant 4, mRNA [NM 001292399]   |
| A.33.P338238   | down | -1.570 | 2.970 | SPATA7       | Homo sapiens spermatogenesis associated 7 (SPATA7), transcript variant 1, mRNA [NM 018418]  |
| A.33.P374563   | down | -1.569 | 2.968 | CONE3        | Homo sapiens cyclin E3 (CONE3), transcript variant 3, mRNA [NM 033031]  |
| A.23.P171107   | down | -1.569 | 2.968 | CNTN1        | Homo sapiens cadherin (CNTN1), mRNA [NM 001018]   |
| A.33.P325755   | down | -1.569 | 2.968 | loc-SHRE2-1  | Homo sapiens cDNA clone IMAGE326399 (loc-SHRE2-1)   |
| A.21.P0003119  | down | -1.569 | 2.968 | XLOC7210751  | LOC7210751 (loc-SHRE2-1), lincRNA [LOC7210751]  |
| A.19.P30318413 | down | -1.569 | 2.968 | SLC16A1      | Homo sapiens solute carrier family 16 (monocarboxylate transporter), member 1 (SLC16A1), transcript variant 3, mRNA [NM 00168466] |
| A.33.P3282434  | down | -1.568 | 2.965 | NHP4A        | Homo sapiens neurochondrin-like 4 (NHP4A), transcript variant 1, mRNA [NM 015102]   |
| A.23.P351734   | down | -1.568 | 2.964 | CHADL        | 46-132179 Human arylacetamide deacetylase mRNA, complete cds. (HUMAN), mRNA sequence [M78660]                                     |
| A.22.P0000134  | down | -1.567 | 2.963 | SLC8A1       | Homo sapiens solute carrier family 8 (sodium/calcium exchanger), member 1 (SLC8A1), transcript variant A, mRNA [NM 021087]        |
| A.33.P3338353  | down | -1.567 | 2.962 | TMEM180      | Homo sapiens transmembrane protein 180 (TMEM180), mRNA [NM 024789]  |
| A.32.P147478   | down | -1.566 | 2.960 | INSJUN       | Homo sapiens NRP2/Sun domain family, member 6 (NSJUN6), mRNA [NM 182543]  |
| A.22.P0019621  | down | -1.566 | 2.956 | PLXNB2       | Homo sapiens plaxin B2 (PLXNB2), mRNA [NM 017407]   |
| A.24.P70898    | down | -1.563 | 2.955 | GEWINBP4     | Homo sapiens gem (nuclear organelle) associated protein 8 pseudogene 4 (GEMNB8P4), non-coding RNA [NM 002830]                     |
| A.32.P197621   | down | -1.563 | 2.954 | LOC101927856 | PREDICTED: Homo sapiens uncharacterized LOC101927856 (LOC101927856), ncRNA [XR 249773]  |
| A.21.P3000448  | down | -1.563 | 2.954 | WNGC9        | Homo sapiens high mobility group nucleosomal binding domain 2 (WNGC9), mRNA [NM 005917]   |
| A.32.P223383   | down | -1.562 | 2.953 | XLOC72106927 | LOC72106927 (WNGC9), lincRNA [XLOC72106927]   |
| A.19.P30686930 | down | -1.562 | 2.952 | DNM1TB       | LOC72106927 (WNGC9), lincRNA [XLOC72106927]   |
| A.23.P28953    | down | -1.562 | 2.952 | ADAMT5 3     | Homo sapiens DNA cytosine 5'-methyltransferase 3 beta (DNMT3B), transcript variant 6, mRNA [NM 178960]                            |
| A.23.P393845   | down | -1.562 | 2.952 | BBG3         | Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif 13 (ADAMT513), transcript variant 1, mRNA [NM 138025]        |
| A.23.P382775   | down | -1.561 | 2.952 | RPX2         | Homo sapiens BCL2 binding component 3 (BBC3), transcript variant 4, mRNA [NM 014417]  |
| A.23.P502590   | down | -1.561 | 2.952 |              | Homo sapiens regulatory factor X.2 (influenza HLA class II expression) (RFX2), transcript variant 1, mRNA [NM 000835]             |

|                |        |        |       |              |      |      |  |
|----------------|--------|--------|-------|--------------|------|------|--|
| A.19.P0060584  | -2.852 | -1.561 | 2.922 | LOC100129461 | down | down | Homo sapiens uncharacterized LOC100129461 (LOC100129461), transcript variant 2, long non-coding RNA [NR_126016]        |
| A.23.P109034   | -2.951 | -1.581 | 2.951 | SDC4         | down | down | Homo sapiens syndecan-4 (SDC4), mRNA [NM_002899]   |
| A.33.P3931101  | -2.950 | -1.580 | 2.950 | TYSDND1      | down | down | Homo sapiens tyrosin domain containing 1 (TYSDND1), transcript variant 1, mRNA [NM_173559]                             |
| A.24.P942417   | -2.949 | -1.580 | 2.949 | TMK4         | down | down | Homo sapiens thrombospondin-related transmembrane protein 4 (TMK4), mRNA [NM_021195]                                   |
| A.21.P0010959  | -2.949 | -1.580 | 2.949 |              | down | down |  |
| A.33.P3944723  | -2.948 | -1.580 | 2.948 | NUBPL        | down | down | Homo sapiens nucleotide binding protein-like (NUBPL), transcript variant 1, mRNA [NM_025152]                           |
| A.23.P2416355  | -2.948 | -1.580 | 2.948 | RPL27A       | down | down | Homo sapiens ribosomal protein L27a (RPL27A), mRNA [NM_000999]   |
| A.24.P262607   | -2.947 | -1.579 | 2.947 | THRA         | down | down | Homo sapiens thyroid hormone receptor, alpha (THRA), transcript variant 1, mRNA [NM_193354]                            |
| A.24.P210358   | -2.946 | -1.578 | 2.946 | PHF14        | down | down | Homo sapiens PHF finger protein 14 (PHF14), transcript variant 2, mRNA [NM_014600]                                     |
| A.33.P3931426  | -2.946 | -1.578 | 2.946 | WIPASH1      | down | down | Homo sapiens multidrug resistance protein 1 (WIPASH1), mRNA [NM_004225]  |
| A.33.P3931930  | -2.945 | -1.578 | 2.945 | ZNF251       | down | down | Homo sapiens zinc finger protein 251 (ZNF251), mRNA [NM_145931]  |
| A.23.P3931577  | -2.945 | -1.578 | 2.945 | ZNF252       | down | down | Homo sapiens zinc finger protein 252 (ZNF252), mRNA [NM_145932]  |
| A.23.P2113861  | -2.943 | -1.557 | 2.943 | PPP5K2       | down | down | Homo sapiens phosphoinositide phosphatase kinase 2 (PPP5K2), transcript variant 2, mRNA [NM_019216]                    |
| A.33.P3931746  | -2.941 | -1.557 | 2.941 | SNAPC5       | down | down | Homo sapiens small nuclear RNA activating complex, polypeptide 5, 18kDa (SNAPC5), mRNA [NM_006049]                     |
| A.33.P3931641  | -2.940 | -1.556 | 2.940 | ZNF509-AS2   | down | down | Homo sapiens ZNF509 antisense RNA 2 (ZNF509-AS2), transcript variant 5, long non-coding RNA [NR_110301]                |
| A.24.P2407414  | -2.939 | -1.555 | 2.939 | PYDC1        | down | down | Homo sapiens PYD (cystin domain) containing 1 (PYDC1), mRNA [NM_152901]  |
| A.24.P3171081  | -2.938 | -1.555 | 2.938 | SLC35B2      | down | down | Homo sapiens solute carrier family 35, member 02 (SLC35B2), transcript variant 1, mRNA [NM_029246]                     |
| A.33.P3931426  | -2.936 | -1.554 | 2.936 | BROAD        | down | down | BROAD instructs lincRNA (LOC10208130), lincRNA [TCONS10014690]   |
| A.22.P0000741  | -2.935 | -1.554 | 2.935 | LOC10274352  | down | down | Homo sapiens uncharacterized LOC10274352, long non-coding RNA [NR_069843]  |
| A.22.P00023794 | -2.932 | -1.552 | 2.932 | LOC10274351  | down | down | PREDICTED: Homo sapiens uncharacterized LOC10274351 (LOC10274351), transcript variant X2, lincRNA [XR_424177]          |
| A.23.P292674   | -2.928 | -1.550 | 2.928 | CRK8         | down | down | Homo sapiens cdc42 guanine nucleotide exchange factor 8 (CRK8), mRNA [NM_001823]                                       |
| A.23.P143047   | -2.927 | -1.549 | 2.927 | ATP9V1E2     | down | down | Homo sapiens ATPase, H <sup>+</sup> transporting, lysosomal 310kDa V1 subunit E2 (ATP9V1E2), mRNA [NM_026953]          |
| A.23.P162589   | -2.927 | -1.549 | 2.927 | VDR          | down | down | Homo sapiens vitamin D (1,25-dihydroxyvitamin D3) receptor (VDR), transcript variant 2, mRNA [NM_00101536]             |
| A.33.P3930146  | -2.927 | -1.549 | 2.927 | ATG4C        | down | down | Homo sapiens autophagy related 4C, cysteine peptidase (ATG4C), transcript variant 1, mRNA [NM_026952]                  |
| A.33.P3930146  | -2.926 | -1.549 | 2.926 | NLGN4X       | down | down | Homo sapiens neuroligin 4, X-linked (NLGN4X), transcript variant 3, mRNA [NM_001282145]                                |
| A.19.P0032929  | -2.925 | -1.548 | 2.925 | ZNF234       | down | down | Homo sapiens zinc finger protein 234 (ZNF234), transcript variant 1, mRNA [NM_006839]                                  |
| A.23.P153286   | -2.925 | -1.548 | 2.925 | AGQCQURT     | down | down | AGQCQURT 1406404 NHL/MCG172 Homo sapiens cDNA 5, mRNA sequence [C0248433]  |
| A.23.P151782   | -2.924 | -1.548 | 2.924 | MAT1A        | down | down | Homo sapiens methionine adenosyltransferase 1, alpha (MAT1A), mRNA [NM_000428]   |
| A.23.P239396   | -2.923 | -1.548 | 2.923 | ATXN9        | down | down | Homo sapiens ataxin 9 (ATXN9), transcript variant reference, mRNA [NM_004993]  |
| A.22.P00001843 | -2.923 | -1.548 | 2.923 | TMEM90       | down | down | Homo sapiens transmembrane protein 90 (TMEM90), mRNA [NM_159172]   |
| A.23.P107775   | -2.923 | -1.548 | 2.923 |              | down | down | High mobility group nucleosomal binding domain 2 pseudogene 36 [SourceHGNC Symbol:HGNC:39407   JENS10000599541]        |
| A.33.P3929382  | -2.923 | -1.547 | 2.923 | FAM181A      | down | down | Homo sapiens family with sequence similarity 181, member A (FAM181A), transcript variant 2, mRNA [NM_026180]           |
| A.32.P068533   | -2.921 | -1.546 | 2.921 | C22orf68     | down | down | Homo sapiens chromosome 2 open reading frame 68 (C22orf68), mRNA [NM_001036493]  |
| A.32.P306546   | -2.920 | -1.546 | 2.920 | TRAP1        | down | down | Homo sapiens triglyceride lipase associated 13 (SPATAC13) (TRAP1), mRNA [NM_142983]                                    |
| A.23.P164248   | -2.920 | -1.546 | 2.920 | NEFH         | down | down | Homo sapiens neurofilament heavy chain, cytoskeletal (NEFH), mRNA [NM_021016]  |
| A.23.P300600   | -2.919 | -1.545 | 2.919 | ATG4C        | down | down | Homo sapiens autophagy related 4C, cysteine peptidase (ATG4C), transcript variant 1, mRNA [NM_026952]                  |
| A.24.P162539   | -2.918 | -1.545 | 2.918 | EFNB2        | down | down | Homo sapiens ephrin-B2 (EFNB2), mRNA [NM_004993]   |
| A.24.P395944   | -2.918 | -1.545 | 2.918 | ZFP92        | down | down | Homo sapiens ZFP92 zinc finger protein (ZFP92), mRNA [NM_133446]   |
| A.23.P416813   | -2.917 | -1.545 | 2.917 | ETV2         | down | down | Homo sapiens ets variant 2 (ETV2), transcript variant 1, mRNA [NM_014290]  |
| A.33.P3970848  | -2.917 | -1.545 | 2.917 | IRAK2        | down | down | Homo sapiens interleukin-1 receptor-associated kinase 2 (IRAK2), mRNA [NM_001970]                                      |
| A.23.P46846    | -2.916 | -1.544 | 2.916 | IRAK2        | down | down | Homo sapiens interleukin-1 receptor-associated kinase 2 (IRAK2), mRNA [NM_001970]                                      |
| A.33.P3932970  | -2.916 | -1.544 | 2.916 | inc-FABPC4-2 | down | down | Homo sapiens cDNA FJ18840, fig. clone THYML2004468 (AK093959)  |
| A.24.P315921   | -2.915 | -1.544 | 2.915 | ADHFE1       | down | down | Homo sapiens alcohol dehydrogenase, iron containing, 1 (ADHFE1), mRNA [NM_144650]                                      |
| A.23.P157569   | -2.915 | -1.543 | 2.915 | CERS6-AS1    | down | down | Homo sapiens CERS6 antisense RNA 1 (CERS6-AS1), transcript variant 1, long non-coding RNA [NR_049786]                  |
| A.22.P00018978 | -2.914 | -1.543 | 2.914 | DVGPI        | down | down | Homo sapiens cuticular glycoprotein 1, 120kDa (DVGPI), mRNA [NM_022957]  |
| A.23.P103756   | -2.913 | -1.542 | 2.913 | ZDHHC14      | down | down | Homo sapiens zinc finger, DHHC-type containing 14 (ZDHHC14), transcript variant 2, mRNA [NM_150746]                    |
| A.24.P269129   | -2.912 | -1.542 | 2.912 | SDA3         | down | down | Homo sapiens selenin amyloidosis 3 (SDA3), transcript variant 2, mRNA [NM_031137380]                                   |
| A.33.P3068913  | -2.911 | -1.542 | 2.911 | ZNF433       | down | down | Homo sapiens zinc finger protein 433 (ZNF433), transcript variant 1, mRNA [NM_0231265]                                 |
| A.24.P292034   | -2.911 | -1.541 | 2.911 | EGFL3        | down | down | Homo sapiens fibroblast growth factor 13 (EGFL3), transcript variant 1, mRNA [NM_004114]                               |
| A.23.P217219   | -2.909 | -1.541 | 2.909 | ERCH8-AS1    | down | down | Homo sapiens ERCH8 antisense RNA 1 (ERCH8-AS1), transcript variant 1, long non-coding RNA [NR_121674]                  |
| A.22.P00013517 | -2.909 | -1.540 | 2.909 | PLOC         | down | down | Homo sapiens poly(ADP-ribose) polymerase 1 (PLOC), transcript variant 6, mRNA [NM_201380]                              |
| A.33.P3419098  | -2.908 | -1.540 | 2.908 | C7orf55      | down | down | Homo sapiens chromosome 7 open reading frame 55 (C7orf55), transcript variant 1, mRNA [NM_197964]                      |
| A.23.P82688    | -2.906 | -1.539 | 2.906 | LOC101927497 | down | down | Homo sapiens uncharacterized LOC101927497 (LOC101927497), transcript variant 1, long non-coding RNA [NR_110088]        |
| A.33.P3819763  | -2.906 | -1.539 | 2.906 | ALG10B       | down | down | Homo sapiens ALG10B, alpha-1,2-galactosyltransferase (ALG10B), mRNA [NM_001013620]                                     |
| A.32.P89679    | -2.905 | -1.538 | 2.905 | KIAA1598     | down | down | Homo sapiens KIAA1598 (KIAA1598), transcript variant 2, mRNA [NM_018300]   |
| A.23.P292587   | -2.904 | -1.538 | 2.904 | MIFP2        | down | down | Homo sapiens mitochondrial intermembrane peptidase (MIFP2), mRNA [NM_005932]   |
| A.33.P3940411  | -2.904 | -1.538 | 2.904 | INPP5D       | down | down | Homo sapiens inositol polyphosphate-5-phosphatase, 145kDa (INPP5D), transcript variant 1, mRNA [NM_00101915]           |
| A.23.P611149   | -2.903 | -1.537 | 2.903 | ZNF608       | down | down | Homo sapiens zinc finger protein 608 (ZNF608), mRNA [NM_020247]  |
| A.23.P169578   | -2.901 | -1.537 | 2.901 | ACPOD        | down | down | Homo sapiens acylglycerol O-acyltransferase (ACPOD), transcript variant 1, mRNA [NM_024122]                            |
| A.23.P417127   | -2.901 | -1.536 | 2.901 | ZCWPW2       | down | down | Homo sapiens zinc finger type with PWWP domain 2 (SourceHGNC Symbol:HGNC:23074   JENS100006039368)                     |
| A.33.P3881149  | -2.901 | -1.536 | 2.901 | FEBL16       | down | down | Homo sapiens F-box and leucine-rich repeat protein 16 (FEBL16), mRNA [NM_153350]                                       |
| A.22.P00017892 | -2.898 | -1.535 | 2.898 | UBTF         | down | down | Homo sapiens upstream binding transcription factor, RNA polymerase I (UBTF), transcript variant 2, mRNA [NM_001076683] |
| A.24.P349616   | -2.894 | -1.533 | 2.894 | AGP3         | down | down | Homo sapiens aquaporin 3 (GIII blood group) (AGP3), mRNA [NM_004925]   |
| A.23.P112462   | -2.893 | -1.533 | 2.893 | ZNF865       | down | down | Homo sapiens zinc finger protein 865 (ZNF865), mRNA [NM_001195605]   |
| A.33.P3417184  | -2.893 | -1.533 | 2.893 |              | down | down |  |





|                |        |        |       |      |              |  |
|----------------|--------|--------|-------|------|--------------|--|
| A.33.P3347976  | -2.835 | -1.503 | 2.835 | down | MI61         | Homo sapiens miR60b-3 ubiquitin protein ligase 1 (MI61), mRNA [NM.020774]  |
| A.23.P410312   | -2.835 | -1.503 | 2.835 | down | CTC876       | Homo sapiens chromosome 12, open reading frame 76 (CTC876), mRNA [NM.021455]   |
| A.23.P70870    | -2.834 | -1.503 | 2.834 | down | CD83         | Homo sapiens CD83 molecule (CD83), transcript variant 1, mRNA [NM.004233]  |
| A.21.P0001023  | -2.834 | -1.503 | 2.834 | down | SDHC         | succinate dehydrogenase complex, subunit C, integral membrane protein, 15Da [Source:HGNC Symbol;Acc:HGNC:10822] [ENST00000457893]            |
| A.33.P338564   | -2.834 | -1.502 | 2.834 | down | RYR1         | Homo sapiens ryanodine receptor 1 (RYR1), transcript variant 1, mRNA [NM.002972]   |
| A.24.P48801    | -2.833 | -1.502 | 2.833 | down | NPH1P1       | Homo sapiens nephropathic 1 (NPH1P1), transcript variant 1, mRNA [NM.001006657]  |
| A.33.P333985   | -2.831 | -1.501 | 2.831 | down | MDR35        | Homo sapiens multidrug resistance domain 35 (MDR35), transcript variant 1, mRNA [NM.001006657]   |
| A.21.P00010256 | -2.831 | -1.501 | 2.831 | down | inc-PANOX1-2 | 90367406P1 NHKOC-40 Homo sapiens cDNA clone IMAGE594872.5, 5' mRNA sequence [BX049472]   |
| A.23.P41029    | -2.830 | -1.499 | 2.830 | down | PUS10        | Homo sapiens pseudouridylylase synthase 10 (PUS10), mRNA [NM.144739]   |
| A.23.P5026678  | -2.830 | -1.499 | 2.830 | down | DMSRP        | Homo sapiens diacylglycerol acyltransferase (DMSRP), mRNA [NM.012100]  |
| A.24.P320463   | -2.829 | -1.499 | 2.829 | down | LCN3         | BROAD leucine rich repeat domain 3 (LCN3), mRNA [NM.020421]  |
| A.24.P320463   | -2.829 | -1.499 | 2.829 | down | LCN3         | BROAD leucine rich repeat domain 3 (LCN3), mRNA [NM.020421]  |
| A.21.P00010583 | -2.828 | -1.498 | 2.828 | down | LOC102100727 | Homo sapiens zinc finger protein 702, pseudogene (ZNF702), non-coding RNA [NR.003878]  |
| A.24.P320463   | -2.828 | -1.498 | 2.828 | down | PTGFRN       | Homo sapiens prostaglandin G2/H synthase receptor (PTGFRN), mRNA [NM.020440]   |
| A.33.P3307197  | -2.824 | -1.489 | 2.824 | down | PTGFRN       | Homo sapiens prostaglandin G2/H synthase receptor (PTGFRN), transcript variant 2, mRNA [NM.020440]   |
| A.23.P156826   | -2.824 | -1.488 | 2.824 | down | ADTRP        | Homo sapiens androgen-dependent, TGF-beta-regulating protein (ADTRP), transcript variant 2, mRNA [NM.027744]                                 |
| A.22.P00020678 | -2.823 | -1.487 | 2.823 | down | inc-MFSD6-1  | DA300983 BRHP2 Homo sapiens cDNA clone BRHP201457.5, mRNA sequence [DA300983]  |
| A.33.P3415868  | -2.823 | -1.487 | 2.823 | down | TEPP         | Homo sapiens testis, prostate and placenta expressed (TEPP), transcript variant 1, mRNA [NM.189046]  |
| A.23.P170337   | -2.823 | -1.487 | 2.823 | down | ALPHA1       | Homo sapiens aldehyde dehydrogenase 4 family, member A1 (ALPHA1), transcript variant P50DL, mRNA [NM.005748]                                 |
| A.23.P410017   | -2.821 | -1.486 | 2.821 | down | TGCE1        | Homo sapiens tubulin folding cofactor E-like (TGCE1), transcript variant 1, mRNA [NM.152715]   |
| A.33.P329108   | -2.820 | -1.485 | 2.820 | down | MTAP         | Homo sapiens methylthioadenosine phosphorylase (MTAP), mRNA [NM.002451]  |
| A.24.P329258   | -2.819 | -1.484 | 2.819 | down | GALM         | Homo sapiens galactose mutarotase (GALM), mRNA [NM.138901]   |
| A.22.P0000241  | -2.816 | -1.484 | 2.816 | down | LOC102723354 | Homo sapiens uncharacterized LOC102723354 (LOC102723354), long non-coding RNA [NR.105646]  |
| A.21.P0004986  | -2.815 | -1.483 | 2.815 | down | LINC00240    | Homo sapiens long intergenic non-protein coding RNA 249 (LINC00240), long non-coding RNA [NR.028775]   |
| A.22.P00011138 | -2.815 | -1.483 | 2.815 | down | XXYL1        | Homo sapiens cDNA FL440897.5f, clone THYM1025406 (AK090816)  |
| A.33.P3221438  | -2.815 | -1.483 | 2.815 | down | XXYL1        | Homo sapiens cysteine adenosyltransferase 1, XXYL1, mRNA [NM.152531]   |
| A.23.P4216     | -2.812 | -1.482 | 2.812 | down | MPZL1        | Homo sapiens myelin protein zero-like 1 (MPZL1), transcript variant 1, mRNA [NM.033853]  |
| A.21.P0013517  | -2.812 | -1.481 | 2.812 | down | BROAD        | BROAD leucine rich repeat domain 3 (LCN3), mRNA [NM.020440]  |
| A.33.P3391656  | -2.811 | -1.481 | 2.811 | down | TP53RK       | Homo sapiens TP53 regulating kinase (TP53RK), mRNA [NM.033850]   |
| A.33.P336361   | -2.810 | -1.480 | 2.810 | down | BTFL3L4      | Homo sapiens basic transcription factor 3-like 4 (BTFL3L4), transcript variant 1, mRNA [NM.152265]   |
| A.21.P0014889  | -2.809 | -1.480 | 2.809 | down | BTFL3L4      | Homo sapiens cDNA FL444855.f1, clone BRAC362486 (AK128805)   |
| A.22.P00013067 | -2.808 | -1.480 | 2.808 | down | LOC101928222 | Homo sapiens uncharacterized LOC101928222 (LOC101928222), long non-coding RNA [NR.102935]  |
| A.33.P3323218  | -2.808 | -1.480 | 2.808 | down | CARF         | Homo sapiens calcium responsive transcription factor (CARF), transcript variant 2, mRNA [NM.024744]  |
| A.24.P187821   | -2.808 | -1.480 | 2.808 | down | MANEA        | Homo sapiens mannosidase, endo-alpha (MANEA), mRNA [NM.024441]   |
| A.33.P3370424  | -2.805 | -1.480 | 2.805 | down | PANX1        | Homo sapiens pannexin 1 (PANX1), mRNA [NM.015368]  |
| A.23.P03223    | -2.804 | -1.480 | 2.804 | down | SRO5A1       | Homo sapiens steroid-5-alpha-reductase, alpha polypeptide 1 (5-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 1) (SRO5A1), mRNA [NM.001047] |
| A.24.P605081   | -2.804 | -1.480 | 2.804 | down | P5MD5-AS1    | Homo sapiens P5MD5 antisense RNA 1 (head to head) (P5MD5-AS1), long non-coding RNA [NR.024605]   |
| A.32.P25737    | -2.803 | -1.480 | 2.803 | down | CHIC1        | Homo sapiens cysteine-rich hydrophobic domain 1 (CHIC1), transcript variant 1, mRNA [NM.024605]  |
| A.24.P131522   | -2.799 | -1.485 | 2.799 | down | AMTX1        | Homo sapiens arylsulfatase receptor 1 (AMTX1), transcript variant 1, mRNA [NM.032268]  |
| A.23.P303826   | -2.798 | -1.485 | 2.798 | down | SPATA4       | semenogelin associated 4 (Source:HGNC Symbol;Acc:HGNC:12333) [ENST00000201011]   |
| A.24.P301505   | -2.795 | -1.483 | 2.795 | down | GLP1R1L2     | Homo sapiens GLP1 receptor-related 1, like 2 (GLP1R1L2), transcript variant 2, mRNA [NM.152436]  |
| A.33.P3237462  | -2.795 | -1.483 | 2.795 | down | RYR1         | long intergenic non-protein coding RNA 1376 [Source:HGNC Symbol;Acc:HGNC:90837] [ENST00000418165]  |
| A.23.P378887   | -2.795 | -1.483 | 2.795 | down | RYR1         | Homo sapiens ryanodine receptor 1 (skelatal) (RYR1), transcript variant 1, mRNA [NM.000540]  |
| A.33.P3783235  | -2.794 | -1.483 | 2.794 | down | MBNL2        | Homo sapiens cDNA FL137785.f1, clone BRHP202830 (AK090104)   |
| A.24.P58317    | -2.794 | -1.482 | 2.794 | down | MBNL2        | Homo sapiens muscleblind-like splicing regulator 2 (MBNL2), transcript variant 1, mRNA [NM.144778]   |
| A.32.P107746   | -2.792 | -1.482 | 2.792 | down | inc-POLR1E-1 | Homo sapiens endostatin alpha (ENSA), transcript variant 1, mRNA [NM.207649]   |
| A.22.P0002874  | -2.792 | -1.481 | 2.792 | down | ZNF889       | Homo sapiens polymerase (RNA) [polypeptide E, 530c], mRNA cDNA clone IMAGE4695468, [BC017766]  |
| A.23.P129559   | -2.789 | -1.480 | 2.789 | down | ZNF889       | Homo sapiens zinc finger protein 889 (ZNF889), transcript variant 1, mRNA [NM.138447]  |
| A.21.P0000450  | -2.788 | -1.479 | 2.788 | down | SNORD116-26  | Homo sapiens small nucleolar RNA, C/D box 116-26 (SNORD116-26), small nucleolar RNA [NR.003340]  |
| A.23.P180177   | -2.787 | -1.479 | 2.787 | down | ATPIA4       | Homo sapiens ATPase, Na <sup>+</sup> /K <sup>+</sup> transporting, alpha 4 polypeptide (ATPIA4), transcript variant 1, mRNA [NM.016699]      |
| A.32.P15709    | -2.786 | -1.478 | 2.786 | down | HMG2         | Homo sapiens high mobility group nucleosomal binding domain 2 (HMG2), mRNA [NM.005517]   |
| A.24.P781668   | -2.786 | -1.478 | 2.786 | down | ZNF879       | Homo sapiens zinc finger protein 879 (ZNF879), mRNA [NM.001130116]   |
| A.23.P326488   | -2.786 | -1.478 | 2.786 | down | TNF          | Homo sapiens tumor necrosis factor (TNF), mRNA [NM.005844]   |
| A.33.P322744   | -2.786 | -1.478 | 2.786 | down | ZNF117       | Homo sapiens zinc finger protein 117 (ZNF117), mRNA [NM.015852]  |
| A.33.P3261927  | -2.784 | -1.477 | 2.784 | down | ZNF789       | Homo sapiens zinc finger protein 789 (ZNF789), transcript variant 1, mRNA [NM.213803]  |
| A.21.P0007259  | -2.784 | -1.477 | 2.784 | down | inc-CODC4-1  | BX068431 Soares placenta NB2HP Homo sapiens cDNA clone MA9888K15235, mRNA sequence [BX068431]  |
| A.33.P3422404  | -2.784 | -1.477 | 2.784 | down | ACSS1        | Homo sapiens acyl-CoA synthetase short-chain family member 1 (ACSS1), transcript variant 4, mRNA [NM.00125677]                               |
| A.24.P940166   | -2.784 | -1.477 | 2.784 | down | PAPS2        | Homo sapiens 3'-phosphoadenosine 5'-phosphosulfate synthase 2 (PAPS2), transcript variant 2, mRNA [NM.00101980]                              |
| A.23.P137484   | -2.783 | -1.477 | 2.783 | down | L1TD1        | Homo sapiens LINE-1 type transposase domain containing 1 (L1TD1), transcript variant 2, mRNA [NM.019793]                                     |
| A.24.P366644   | -2.781 | -1.476 | 2.781 | down | ZNF175       | eukaryotic translation elongation factor 1 alpha 1 pseudogene 32 [Source:HGNC Symbol;Acc:HGNC:32950] [ENST00000418613]                       |
| A.23.P323274   | -2.780 | -1.475 | 2.780 | down | MROH8        | Homo sapiens zinc finger protein 175 (ZNF175), mRNA [NM.007143]  |
| A.23.P421811   | -2.780 | -1.475 | 2.780 | down | MROH8        | Homo sapiens zinc finger protein 175 (ZNF175), transcript variant 1, mRNA [NM.162950]  |
| A.23.P28046    | -2.779 | -1.475 | 2.779 | down | GBR1         | Homo sapiens carboxyl reductase 1 (GBR1), transcript variant 1, mRNA [NM.001257]   |
| A.32.P26768    | -2.778 | -1.474 | 2.778 | down | FOXPA-AS1    | Homo sapiens FOXPA antisense RNA 1 (FOXPA-AS1), transcript variant 1, long non-coding RNA [NR.128415]  |
| A.23.P425504   | -2.777 | -1.473 | 2.777 | down | SUFU         | Homo sapiens suppressor of fused homolog (Drosophila) (SUFU), transcript variant 1, mRNA [NM.019169]   |

|                |      |        |       |       |      |              |   |
|----------------|------|--------|-------|-------|------|--------------|---|
| A.23.P120005   | down | -1.473 | 2.775 | 2.775 | down | NYNRIN       | Homo sapiens NYN domain and retroviral integrase containing (NYNRIN), mRNA [NM 025068.1]  |
| A.23.P130028   | down | -1.472 | 2.775 | 2.775 | down | POU2F3       | Homo sapiens POU class 2 homeobox 3 (POU2F3), transcript variant 1, mRNA [NM 014382]  |
| A.33.P065333   | down | -1.472 | 2.774 | 2.774 | down | SHISA5       | shisa family member 5 (Source:HGNC Symbol;Acc:BC032676) [ENS:00000486344]   |
| A.33.P341255   | down | -1.472 | 2.773 | 2.773 | down | ZNF288       | Homo sapiens zinc finger protein 288 (ZNF288), transcript variant 3, mRNA [NM 152948]   |
| A.33.P326022   | down | -1.471 | 2.773 | 2.773 | down | NRR1A1       | Homo sapiens nuclear receptor subfamily 6, group A, member 1 (NRR1A1), transcript variant 1, mRNA [NM 033334]                           |
| A.33.P328529   | down | -1.471 | 2.772 | 2.772 | down | DNAI2        | Homo sapiens dyx16c1, axonemal, intermediate chain 2 (DNAI2), transcript variant 1, mRNA [NM 029398]                                    |
| A.23.P150359   | down | -1.471 | 2.772 | 2.772 | down | G1orf1       | Homo sapiens chromosome 11 open reading frame 1 (G1orf1), mRNA [NM 022161]  |
| A.33.P330327   | down | -1.470 | 2.770 | 2.770 | down | ZNF320       | Homo sapiens zinc finger, NFX-type containing 1 (ZNF320), mRNA [NM 021035]  |
| A.23.P32655    | down | -1.470 | 2.770 | 2.770 | down | METTL8       | Homo sapiens methyltransferase like 8 (METTL8), mRNA [NM 024720]  |
| A.23.P398491   | down | -1.470 | 2.769 | 2.769 | down | G1orf57      | Homo sapiens chromosome 19 open reading frame 57 (G1orf57), transcript variant 4, mRNA [NM 001884132]                                   |
| A.33.P3383189  | down | -1.469 | 2.769 | 2.769 | down | SP9          | Homo sapiens Sp4 transcription factor (SP9), mRNA [NM 001482500]  |
| A.22.P00023877 | down | -1.469 | 2.769 | 2.769 | down | ZBTB14       | Homo sapiens zinc finger and BTB domain containing 14 (ZBTB14), transcript variant 2, mRNA [NM 003409]                                  |
| A.24.P14004    | down | -1.468 | 2.767 | 2.767 | down | PAN2/3A      | Homo sapiens family with sequence similarity 213, member A (FAM213A), transcript variant 1, mRNA [NM 032333]                            |
| A.23.P03600    | down | -1.468 | 2.767 | 2.767 | down | ALP3         | GHW30_HUMAN (GHW30), MORR1 protein, partial (44%), [CH2519762]  |
| A.33.P3208422  | down | -1.468 | 2.767 | 2.767 | down | ALP3         | Homo sapiens apoptosis-inducing factor, mitochondrial-associated, 3 (AIFM3), transcript variant 2, mRNA [NM 001018060]                  |
| A.23.P248194   | down | -1.468 | 2.766 | 2.766 | down | HMG2         | Homo sapiens histone chromosome protein HMG-17 mRNA, complete cds. [M12623]   |
| A.32.P1381     | down | -1.468 | 2.766 | 2.766 | down | LAMTOR5-AS1  | Homo sapiens LAMTOR5 antisense RNA 1 (LAMTOR5-AS1), long non-coding RNA [NR 028977]   |
| A.21.P0010545  | down | -1.468 | 2.766 | 2.766 | down | FAM85F       | Homo sapiens family with sequence similarity 85, member F (FAM85F), mRNA [NM 138439]  |
| A.23.P329383   | down | -1.467 | 2.765 | 2.765 | down | inc-CORR-1   | Homo sapiens family with sequence similarity 85, member F (FAM85F), mRNA [NM 138439]  |
| A.21.P003454   | down | -1.467 | 2.765 | 2.765 | down | ZNF174       | incRNA lincRNA (inc-CORR-1), lincRNA (inc-CORR-1) [ENS:00000486685]   |
| A.33.P339230   | down | -1.467 | 2.765 | 2.765 | down | SRF4         | Homo sapiens zinc finger protein 174 (ZNF174), transcript variant 1, mRNA [NM 029330]   |
| A.23.P340228   | down | -1.467 | 2.765 | 2.765 | down | ATP1A1       | Homo sapiens major mitochondrial serine aminopeptidase 4 (SRF4), mRNA [NM 029330]   |
| A.23.P1072     | down | -1.467 | 2.764 | 2.764 | down | ATP1A1       | Homo sapiens ATPase, H <sup>+</sup> /K <sup>+</sup> -transporting, alpha 1 polypeptide (ATP1A1), transcript variant 1, mRNA [NM 000703] |
| A.21.P0000876  | down | -1.466 | 2.762 | 2.762 | down | TMEM161B-AS1 | Homo sapiens TMEM161B antisense RNA 1 (TMEM161B-AS1), transcript variant 4, long non-coding RNA [NR 105019]                             |
| A.23.P120254   | down | -1.465 | 2.762 | 2.762 | down | DUSP22       | Homo sapiens dual specificity phosphatase 22 (DUSP22), transcript variant 2, mRNA [NM 020185]   |
| A.33.P323493   | down | -1.465 | 2.761 | 2.761 | down | TFR3         | Homo sapiens sDNA FLJ2784, flc, clone TM601544, JAK130794   |
| A.23.P212617   | down | -1.465 | 2.760 | 2.760 | down | TFR3         | Homo sapiens transferrin receptor (TFR3), transcript variant 1, mRNA [NM 032234]  |
| A.23.P18944    | down | -1.463 | 2.758 | 2.758 | down | ELAC1        | Homo sapiens elac1 ribonuclease Z 1 (ELAC1), mRNA [NM 018896]   |
| A.33.P3359543  | down | -1.463 | 2.757 | 2.757 | down | ZNF581       | Homo sapiens zinc finger protein 581 (ZNF581), mRNA [NM 152289]   |
| A.21.P0006078  | down | -1.462 | 2.755 | 2.755 | down | LINC01410    | Homo sapiens long intergenic non-protein coding RNA 1410 (LINC01410), long non-coding RNA [NR 121647]                                   |
| A.23.P04819    | down | -1.462 | 2.754 | 2.754 | down | RPH3AL       | Homo sapiens raphlin 3A-like (without C2 domains) (RPH3AL), transcript variant 1, mRNA [NM 008937]                                      |
| A.21.P0012439  | down | -1.462 | 2.754 | 2.754 | down | TRANK1       | Homo sapiens tetratricopeptide repeat and ankyrin repeat containing 1 (TRANK1), mRNA [NM 014851]  |
| A.23.P321466   | down | -1.461 | 2.753 | 2.753 | down | PEX11G       | Homo sapiens peroxisomal biogenesis factor 11 gamma (PEX11G), transcript variant 1, mRNA [NM 036952]                                    |
| A.23.P265726   | down | -1.461 | 2.752 | 2.752 | down | GRP          | Homo sapiens carbonylchaperonin 90 (GRP), mRNA [NM 0181324]   |
| A.23.P268424   | down | -1.461 | 2.752 | 2.752 | down | DUT          | Homo sapiens deoxyribose triphosphatase (DUT), transcript variant 1, mRNA [NM 001025248]  |
| A.23.P118203   | down | -1.460 | 2.751 | 2.751 | down | ZNF168       | Homo sapiens zinc finger protein 168 (ZNF168), mRNA [NM 145292]   |
| A.23.P15502    | down | -1.460 | 2.750 | 2.750 | down | APOLB        | Homo sapiens apolipoprotein L 6 (APOLB), mRNA [NM 036841]   |
| A.24.P043922   | down | -1.459 | 2.750 | 2.750 | down | CACHD1       | Homo sapiens cache domain containing 1 (CACHD1), transcript variant 1, mRNA [NM 020925]   |
| A.32.P105195   | down | -1.459 | 2.750 | 2.750 | down | DDX46        | Homo sapiens DEAD (Asp-Glu-Ala-Asp) box polypeptide 46 (DDX46), transcript variant 2, mRNA [NM 014823]                                  |
| A.22.P00005924 | down | -1.459 | 2.749 | 2.749 | down | HDXA10-AS    | Homo sapiens HDXA10 antisense RNA (HDXA10-AS), long non-coding RNA [NR 046609]  |
| A.23.P324206   | down | -1.459 | 2.749 | 2.749 | down | ID1          | Homo sapiens inhibitor of DNA binding 1, dominant negative helix-loop-helix protein (ID1), transcript variant 1, mRNA [NM 002195]       |
| A.32.P170697   | down | -1.458 | 2.748 | 2.748 | down | ZNF557       | Homo sapiens zinc finger protein 557 (ZNF557), transcript variant 1, mRNA [NM 024341]   |
| A.23.P254816   | down | -1.458 | 2.748 | 2.748 | down | TGF-15       | Homo sapiens transcription factor 15 (basis helix-loop-helix) (TGF15), mRNA [NM 004609]   |
| A.33.P323190B  | down | -1.458 | 2.748 | 2.748 | down | POU3F3       | Homo sapiens POU class 3 homeobox 3 (POU3F3), mRNA [NM 006238]  |
| A.33.P3378707  | down | -1.458 | 2.748 | 2.748 | down | LOC648214    | Homo sapiens p21 protein (Cdc42/Rac)-activated kinase 2 pseudogene (LOC648214), non-coding RNA [NR 027053]                              |
| A.24.P11482    | down | -1.458 | 2.747 | 2.747 | down | ZNR2         | Homo sapiens antizyme inhibitor 2 (AZIN2), transcript variant 1, mRNA [NM 025993]   |
| A.33.P3407414  | down | -1.458 | 2.747 | 2.747 | down | LINC01278    | Homo sapiens long intergenic non-protein coding RNA 1278 (LINC01278), long non-coding RNA [NR 015955]                                   |
| A.23.P30116    | down | -1.457 | 2.746 | 2.746 | down | LOC1         | Homo sapiens long intergenic non-protein coding RNA 1278 (LINC01278), long non-coding RNA [NR 015955]                                   |
| A.33.P3281384  | down | -1.455 | 2.741 | 2.741 | down | SCAMP1-AS1   | Homo sapiens SCAMP1 antisense RNA 1 (SCAMP1-AS1), long non-coding RNA [NR 105014]   |
| A.23.P308371   | down | -1.455 | 2.741 | 2.741 | down | MRRPEX3      | Homo sapiens MAS-related GPR, member X3 (MRRPEX3), mRNA [NM 064031]   |
| A.32.P110872   | down | -1.455 | 2.741 | 2.741 | down | GGACT        | Homo sapiens gamma-glutamylamine cyclotransferase (GGACT), transcript variant 1, mRNA [NM 033110]                                       |
| A.23.P460687   | down | -1.455 | 2.741 | 2.741 | down | ZNF107       | Homo sapiens zinc finger protein 107 (ZNF107), transcript variant 1, mRNA [NM 018220]   |
| A.21.P0101519  | down | -1.455 | 2.741 | 2.741 | down | ZNF285       | Homo sapiens zinc finger protein 285 (ZNF285), transcript variant 4, mRNA [NM 152354]   |
| A.21.P0001960  | down | -1.454 | 2.740 | 2.740 | down | inc-HOXC13-2 | LINCEDIA lincRNA (inc-HOXC13-2), lincRNA (inc-HOXC13-2) [ENS:00000486685]   |
| A.24.P2121715  | down | -1.454 | 2.740 | 2.740 | down | GBL1         | Homo sapiens Gbl protein-oncogene B, E3 ubiquitin protein ligase (GBL1), mRNA [NM 170682]   |
| A.24.P290624   | down | -1.453 | 2.738 | 2.738 | down | FGFR2        | Homo sapiens fibroblast growth factor receptor 2 (FGFR2), transcript variant 2, mRNA [NM 022970]  |
| A.21.P0002731  | down | -1.453 | 2.737 | 2.737 | down | LOC10275370  | PREDICTED: Homo sapiens uncharacterized LOC10275370 (LOC10275370), transcript variant X3, mRNA [XR 425597]                              |
| A.24.P105564   | down | -1.452 | 2.737 | 2.737 | down | PKRAB2       | Homo sapiens protein kinase, AMP-activated, beta 2 non-catalytic subunit (PKRAB2), transcript variant 1, mRNA [NM 005389]               |
| A.33.P3228653  | down | -1.452 | 2.736 | 2.736 | down | LINC00065    | Homo sapiens long intergenic non-protein coding RNA 605 (LINC00065), long non-coding RNA [NR 033958]                                    |
| A.23.P029260   | down | -1.452 | 2.736 | 2.736 | down | ECNV2        | Homo sapiens ecanv-like 2 (Ecanv-like 2) (ECNV2), mRNA [NM 014801]  |
| A.22.P0001899  | down | -1.451 | 2.733 | 2.733 | down | LOC101928987 | Homo sapiens uncharacterized LOC101928987 (LOC101928987), long non-coding RNA [NR 126823]   |
| A.23.P434940   | down | -1.450 | 2.732 | 2.732 | down | ODKNA        | Homo sapiens cyclin-dependent kinase inhibitor 2A (CDKN2A), transcript variant 3, mRNA [NM 008197]                                      |
| A.23.P259533   | down | -1.450 | 2.732 | 2.732 | down | G6orf203     | Homo sapiens chromosome 6 open reading frame 203 (G6orf203), transcript variant 1, mRNA [NM 016487]                                     |
| A.23.P238124   | down | -1.449 | 2.730 | 2.730 | down | ZNF346       | Homo sapiens zinc finger protein 346 (ZNF346), mRNA [NM 012279]   |

|                |      |        |       |              |   |
|----------------|------|--------|-------|--------------|---|
| A.23.P08869    | down | -1.448 | 2.729 | GHODL        | Homo sapiens chondrolectin (GHODL), transcript variant 1, mRNA [NM_024944]  |
| A.23.P08643    | down | -1.448 | 2.729 | SETMAR       | Homo sapiens SET domain and mariner transposase fusion gene (SETMAR), transcript variant 1, mRNA [NM_006151]                                  |
| A.23.P140450   | down | -1.448 | 2.729 | SLC27A2      | Homo sapiens solute carrier family 27 (fatty acid transporter), member 2 (SLC27A2), transcript variant 1, mRNA [NM_003649]                    |
| A.23.P000998   | down | -1.447 | 2.727 | HOXA9        | Homo sapiens homeobox A9 (HOXA9), mRNA [NM_157239]  |
| A.21.P0006781  | down | -1.447 | 2.727 | TKNS2-AS1    | Homo sapiens TKNS2 antisense RNA 1 (head to head) (TKNS2-AS1), transcript variant 1, long non-coding RNA [NR_108070]                          |
| A.33.P023420   | down | -1.447 | 2.727 | RASSF6       | Homo sapiens RAS association (RASSF/AF-6) domain family member 6 (RASSF6), transcript variant 1, mRNA [NM_177332]                             |
| A.23.P12477    | down | -1.447 | 2.726 | SCHMI        | Homo sapiens sex comb on midline homolog 1 (Drosophila) (SCHMI), transcript variant 2, mRNA [NM_023261]                                       |
| A.33.P036364   | down | -1.447 | 2.726 | FNANCE       | Homo sapiens fibronectin complementation group F (FNANCE), mRNA [NM_022725]   |
| A.23.P024204   | down | -1.447 | 2.726 | HGAR2        | Homo sapiens hydroxyglutaryl acid receptor 2 (HGAR2), mRNA [NM_172551]  |
| A.23.P18247    | down | -1.446 | 2.724 | FGAP1        | Homo sapiens focal-actin attachment to proteins 1 (FGAP1), mRNA [NM_024888]   |
| A.24.P260134   | down | -1.445 | 2.723 | NNMT3        | Homo sapiens nicotinamide nucleotide adeneyltransferase 3 (NNMT3), transcript variant 1, mRNA [NM_178177]                                     |
| A.33.P0408392  | down | -1.445 | 2.723 | FZD6         | Homo sapiens frizzled class receptor 6 (FZD6), transcript variant 1, mRNA [NM_003096]   |
| A.23.P182288   | down | -1.445 | 2.723 | MYO1A        | Homo sapiens myosin IA (MYO1A), transcript variant 2, mRNA [NM_005379]  |
| A.22.P00003140 | down | -1.445 | 2.722 | PTSG2        | PREDICTED: Homo sapiens uncharacterized LOC101928337 (RP11-28B1), transcript variant X4, mRNA [XR_428581]                                     |
| A.21.P0005594  | down | -1.443 | 2.719 | INC-GNA12-1  | LINC00142, lincRNA [inc-GNA12-1], lincRNA [inc-GNA12-1]   |
| A.24.P145122   | down | -1.443 | 2.719 | NUCKS1       | Homo sapiens nuclear casein kinase and cyclin-dependent kinase substrate 1 (NUCKS1), mRNA [NM_027311]   |
| A.23.P08851    | down | -1.443 | 2.719 | KREMENT1     | Homo sapiens kringle containing transmembrane protein 1 (KREMENT1), transcript variant 3, mRNA [NM_001039570]                                 |
| A.33.P17516452 | down | -1.443 | 2.719 | LRIG2        | Leucine-rich repeats and immunoglobulin-like domains 2 [Source:HGNC Symbol;Acc:HGNC:20889] (LRIG2), transcript variant 1, mRNA [NM_001039570] |
| A.23.P027638   | down | -1.443 | 2.718 | CH29B        | CH29B, transcript variant 1, mRNA [NM_029134]   |
| A.33.P025330   | down | -1.443 | 2.718 | DCBLD1       | Homo sapiens discoidin domain containing protein 1 (DCBLD1), mRNA [NM_178174]   |
| A.24.P021151   | down | -1.442 | 2.717 | C3orf17      | Homo sapiens chromosome 3 open reading frame 17 (C3orf17), transcript variant 1, mRNA [NM_019412]   |
| A.33.P0388621  | down | -1.442 | 2.717 | NR_108081    | Homo sapiens, clone IMAGE5788384, mRNA [BC024619]   |
| A.19.P00018561 | down | -1.442 | 2.717 | LINC01176    | Homo sapiens long intergenic non-protein coding RNA 1176 (LINC01176), long non-coding RNA [NR_108081]   |
| A.23.P04173    | down | -1.442 | 2.717 | GARD16       | Homo sapiens caspase recruitment domain family, member 16 (CARD16), transcript variant 1, mRNA [NM_001017534]                                 |
| A.21.P0010141  | down | -1.442 | 2.717 | MEB9AHG      | miR-98a-let-7c cluster host gene (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:1274] (ENST00000435667)                                    |
| A.33.P0276307  | down | -1.442 | 2.717 | NPXE3        | Homo sapiens neuroxinophilin and PC-esterase domain family, member 3 (NPXE3), transcript variant 1, mRNA [NM_00134456]                        |
| A.33.P0327956  | down | -1.441 | 2.715 | ZNF605       | Homo sapiens zinc finger protein 605 (ZNF605), transcript variant 1, mRNA [NM_185238]   |
| A.23.P00792    | down | -1.441 | 2.715 | PNKD         | Homo sapiens paroxysmal nocturnal hemiplegia 2 (PNKD), transcript variant 3, mRNA [NM_001072399]  |
| A.23.P05715    | down | -1.441 | 2.715 | ZNF181       | Homo sapiens zinc finger protein 181 (ZNF181), transcript variant 1, mRNA [NM_031028927]  |
| A.23.P056506   | down | -1.441 | 2.715 | SRM2         | Homo sapiens serine-rich domain family 2 (SRM2), transcript variant 1, mRNA [NM_172551]   |
| A.23.P148321   | down | -1.441 | 2.715 | DP45         | Homo sapiens diaphanous family phosphatase 4 (DP45), transcript variant 1, mRNA [NM_01072384]   |
| A.23.P031445   | down | -1.441 | 2.714 | UST1         | Homo sapiens uroporphyrin-III suferctrase (UST1), mRNA [NM_005715]  |
| A.33.P08349    | down | -1.441 | 2.714 | LOC730267    | PREDICTED: Homo sapiens uncharacterized LOC730267, miscRNA [XR_428840]  |
| A.33.P0261051  | down | -1.440 | 2.714 | DZP3         | Homo sapiens DAZ, interacting zinc finger protein, 3 (DZP3), mRNA [NM_014648]   |
| A.33.P036872   | down | -1.440 | 2.714 | ATM          | Homo sapiens ATM serine/threonine kinase (ATM), mRNA [NM_000051]  |
| A.33.P035882   | down | -1.440 | 2.713 | LOC38862     | Homo sapiens uncharacterized LOC38862, long non-coding RNA [NR_119333]  |
| A.21.P0012680  | down | -1.440 | 2.712 | LOC10275134  | PREDICTED: Homo sapiens uncharacterized LOC10275134 (LOC10275134), transcript variant X2, ncRNA [XR_431880]                                   |
| A.33.P0381647  | down | -1.440 | 2.712 | AKT2         | Homo sapiens v-akt murine thymoma viral oncogene homolog 2 (AKT2), transcript variant 1, mRNA [NM_001628]                                     |
| A.21.P0011339  | down | -1.440 | 2.712 | XLOC12104772 | BROAD Institute lincRNA [XLOC12104772], lincRNA [TCOONS12100008789]   |
| A.22.P00023080 | down | -1.439 | 2.712 | LRIG2        | Leucine-rich repeats and immunoglobulin-like domains 2 [Source:HGNC Symbol;Acc:HGNC:20889] (ENST00000681127)                                  |
| A.21.P0005404  | down | -1.438 | 2.710 | LOC102723354 | Homo sapiens uncharacterized LOC102723354 (LOC102723354), long non-coding RNA [NR_110546]   |
| A.33.P17234    | down | -1.438 | 2.710 | KATNAL1      | Homo sapiens cadherin p00 substrate A-like 1 (KATNAL1), transcript variant 1, mRNA [NM_002116]  |
| A.23.P020458   | down | -1.438 | 2.709 | PTGFRN       | Homo sapiens protein tyrosine phosphatase receptor type 1 (PTGFRN), transcript variant 1, mRNA [NM_010105]                                    |
| A.22.P00222011 | down | -1.438 | 2.709 | INC-GATAD1-2 | LINC00142, lincRNA [inc-GATAD1-2], lincRNA [inc-GATAD1-2]   |
| A.22.P00009583 | down | -1.437 | 2.708 | FAM83H-AS1   | Homo sapiens FAM83H antisense RNA 1 (head to head) (FAM83H-AS1), long non-coding RNA [NR_033848]  |
| A.22.P00018800 | down | -1.437 | 2.708 | INC-TG2N-1   | Homo sapiens, clone FLJ12301, lincRNA [inc-TG2N-1], lincRNA [inc-TG2N-1]  |
| A.23.P110005   | down | -1.437 | 2.708 | NCN1         | Homo sapiens nicotianin 1 (NCN1), mRNA [NM_032316]  |
| A.21.P0001286  | down | -1.437 | 2.708 | INC-UPT1L-3  | LINC00142, lincRNA [inc-UPT1L-3], lincRNA [inc-UPT1L-3]   |
| A.23.P0210164  | down | -1.437 | 2.708 | HOXD9        | Homo sapiens homeobox D9 (HOXD9), transcript variant 1, mRNA [NM_019558]  |
| A.23.P027088   | down | -1.436 | 2.706 | SHFG         | Homo sapiens sex hormone-binding globulin (SHBG), transcript variant 1, mRNA [NM_001040]  |
| A.33.P0348546  | down | -1.436 | 2.706 | DCAF17       | Homo sapiens DCAF17 and CUL4 associated factor 17 (DCAF17), transcript variant 1, mRNA [NM_029000]  |
| A.23.P216655   | down | -1.436 | 2.706 | TRIM14       | Homo sapiens tripartite motif containing 14 (TRIM14), transcript variant 1, mRNA [NM_014785]  |
| A.23.P064544   | down | -1.436 | 2.705 | CTCF60       | Homo sapiens chromosome 12 open reading frame 60 (CTCF60), mRNA [NM_175974]   |
| A.23.P17898    | down | -1.436 | 2.705 | DUSP22       | Homo sapiens dual specificity phosphatase 22 (DUSP22), transcript variant 2, mRNA [NM_020185]   |
| A.24.P253827   | down | -1.436 | 2.705 | AP2B1        | Homo sapiens adaptor-related protein complex 2, beta 1 subunit (AP2B1), transcript variant 1, mRNA [NM_001030006]                             |
| A.33.P146798   | down | -1.434 | 2.703 | UBXN2B       | Homo sapiens UBX domain protein 2B (UBXN2B), mRNA [NM_00107819]   |
| A.23.P210176   | down | -1.434 | 2.702 | ITDAD        | Homo sapiens integrin alpha 9 (ITDAD), transcript variant 2, mRNA [NM_002101]   |
| A.24.P116017   | down | -1.434 | 2.702 | P-SMD9       | Homo sapiens, neurospomy 285 subunit, non-A1 Par6, 1 (P-SMD9), transcript variant 1, mRNA [NM_009181]   |
| A.33.P020025   | down | -1.434 | 2.702 | ZNF423       | Homo sapiens zinc finger protein 423 (ZNF423), transcript variant 2, mRNA [NM_001088480]  |
| A.22.P00013002 | down | -1.432 | 2.699 | PROS1        | Homo sapiens protein S (alpha) (PROS1), mRNA [NM_000313]  |
| A.23.P73114    | down | -1.432 | 2.698 | LINC01184    | Homo sapiens long intergenic non-protein coding RNA 1184 (LINC01184), long non-coding RNA [NR_015380]   |
| A.33.P0313800  | down | -1.431 | 2.695 | LINC01184    | Homo sapiens long intergenic non-protein coding RNA 1184 (LINC01184), long non-coding RNA [NR_015380]   |

|                |        |        |       |   |   |
|----------------|--------|--------|-------|---|---|
| A_33_P3300400  | -2.695 | -1.430 | 2.695 | ORTG1   | Homo sapiens olfactory receptor, family 7, subfamily G, member 1 (ORTG1). mRNA [NM_001005192]                               |
| A_24_P337419   | -1.429 | -1.428 | 2.683 | ITCD8   | Homo sapiens ligand transcription factor 6 (ITCD6). transcript variant 1. mRNA [NM_009043]                                  |
| A_23_P27332    | -2.691 | -1.428 | 2.681 | TCF4  | Homo sapiens transcription factor 4 (TCF4). transcript variant 2. mRNA [NM_003119]  |
| A_23_P126813   | -2.689 | -1.428 | 2.680 | KOHL1   | Homo sapiens KOHL1 (Lys-Arg-Glu-Lys) containing 1 (KOHL1). mRNA [NM_024089]   |
| A_23_P21485    | -2.689 | -1.427 | 2.689 | FCGBP   | Homo sapiens FCGBP (Fragment of IgG binding protein) (FCGBP). mRNA [NM_008390]  |
| A_24_P333421   | -2.689 | -1.427 | 2.689 | ZNF862  | Homo sapiens zinc finger protein 862 (ZNF862). mRNA [NM_001099220]  |
| A_24_P306720   | -2.688 | -1.426 | 2.688 | FOXP3-AS1   | Homo sapiens FOXP3 antisense RNA 1 (FOXP3-AS1). long non-coding RNA [NR_005900]   |
| A_23_P338889   | -2.688 | -1.426 | 2.688 | PHF1  | Homo sapiens poly(ADP-ribose) polymerase 1 (PHF1). transcript variant 1. mRNA [NM_022358]                                   |
| A_24_P312325   | -2.687 | -1.426 | 2.687 | inc-AT131215.1-1  | Homo sapiens mRNA for hypothetical protein (LOC101927487). [AJ312027]   |
| A_33_P3376140  | -2.687 | -1.426 | 2.687 | KCNJ15  | Homo sapiens potassium channel, inwardly rectifying subfamily J, member 15 (KCNJ15). transcript variant 1. mRNA [NM_170230] |
| A_23_P7172     | -2.687 | -1.426 | 2.687 | GGX2  | Homo sapiens glutathione S-transferase gamma 2 (GGX2). mRNA [NM_019200]   |
| A_23_P330685   | -2.686 | -1.425 | 2.686 | ZNF440  | Homo sapiens zinc finger protein 440 (ZNF440). mRNA [NM_152695]   |
| A_23_P336800   | -2.685 | -1.425 | 2.685 | BAG1  | Homo sapiens bag-1 14-3-3 sigma cytoskeleton-associated protein 1 (BAG1). mRNA [NM_008716]                                  |
| A_24_P237078   | -2.684 | -1.424 | 2.684 | APMAP   | Homo sapiens apolipoprotein A-II membrane associated protein (APMAP). mRNA [NM_020531]                                      |
| A_24_P53282    | -2.682 | -1.423 | 2.682 | CPD   | Homo sapiens carboxypeptidase D (CPD). transcript variant 1. mRNA [NM_001304]   |
| A_21_P0014378  | -2.681 | -1.423 | 2.681 | HKR1  | HKR1, GIL-Kruppel zinc finger family member. [Source:HGNC Symbol;Acc:HGNC:4928]   |
| A_22_P00000606 | -2.679 | -1.422 | 2.679 | inc-AGER2-1   | Homo sapiens cDNA FLJ2245 fis, clone COL01.B4. [AK024898]   |
| A_32_P142490   | -2.678 | -1.421 | 2.678 | ZCHHC2  | Homo sapiens zinc finger, CCHC domain containing 2 (ZCHHC2). transcript variant 1. mRNA [NM_017742]                         |
| A_33_P320591   | -2.677 | -1.420 | 2.677 | ADP3  | Homo sapiens aquaporin 3 (GII blood group) (ADP3). mRNA [NM_004925]   |
| A_33_P3265872  | -2.676 | -1.420 | 2.676 | LOC101927487  | Homo sapiens uncharacterized LOC101927487 (LOC101927487). transcript variant 1, long non-coding RNA [NR_110086]             |
| A_24_P335324   | -2.675 | -1.419 | 2.675 | MICAL2  | Homo sapiens MICAL-like 2 (MICAL2). mRNA [NM_192924]  |
| A_33_P331170   | -2.674 | -1.419 | 2.674 | ZNF789  | Homo sapiens zinc finger protein 789 (ZNF789). transcript variant 1. mRNA [NM_213803]                                       |
| A_21_P3000379  | -2.674 | -1.419 | 2.674 | SNORD37   | Homo sapiens small nucleolar RNA, G box B7 (SNORD37). small nucleolar RNA [NR_003056]                                       |
| A_32_P220150   | -2.673 | -1.419 | 2.673 | PLGEB1  | Homo sapiens plumbagin-like B1 (PLGEB1). mRNA [LOC10050272]   |
| A_22_P0002547  | -2.673 | -1.418 | 2.673 | inc-GRID2IP-1   | Small nuclear RNA (snRNA) for protein-tyrosine phosphatase SH-PTPase. [Source:Ensembl;Acc:ENST00000248421]                  |
| A_22_P00008731 | -2.672 | -1.418 | 2.672 | Homo sapiens cDNA FLJ3813 fis, clone BRAM201748. [AK008032] |   |
| A_33_P3263888  | -2.671 | -1.417 | 2.671 | DSC3  | Homo sapiens desmocollin 3 (DSC3). transcript variant Dsca. mRNA [NM_001941]  |
| A_21_P0000504  | -2.669 | -1.416 | 2.669 | PREDIC1ED   | Homo sapiens uncharacterized LOC102723911 (LOC102723911). mRNA [XR_426531]  |
| A_33_P3354662  | -2.669 | -1.416 | 2.669 | CTSDA2  | Homo sapiens CT calcium-dependent domain containing 4A (CTSDA4). mRNA [NM_207322]   |
| A_23_P17282    | -2.669 | -1.416 | 2.669 | ELMO2   | Homo sapiens ELMO2-12 domain containing 2 (ELMO2). mRNA [NM_153702]   |
| A_33_P3250045  | -2.668 | -1.416 | 2.668 | CNP   | Homo sapiens 2',3'-cyclic nucleotide 5'-phosphodiesterase (CNP). mRNA [NM_033133]   |
| A_33_P3220384  | -2.667 | -1.415 | 2.667 | AKNA  | Homo sapiens cDNA FLJ44148 fis, clone THYMLZ030837. [AK126136]  |
| A_23_P329201   | -2.667 | -1.415 | 2.667 | BTG2  | Homo sapiens BTG family, member 2 (BTG2). mRNA [NM_009783]  |
| A_23_P162620   | -2.665 | -1.414 | 2.665 | TNFSF13   | Homo sapiens tumor necrosis factor (ligand) superfamily, member 13 (TNFSF13). transcript variant gamma. mRNA [NM_172088]    |
| A_23_P124246   | -2.663 | -1.413 | 2.663 | CMYAB   | Homo sapiens cardiomyopathy associated 5 (CMYAB). mRNA [NM_153610]  |
| A_33_P3330335  | -2.662 | -1.412 | 2.662 | GINT  | Homo sapiens glycyglycyl retinotranspon integrase 1 (GINT). mRNA [NM_017676]  |
| A_33_P340389   | -2.661 | -1.412 | 2.661 | HIST1H3H  | Homo sapiens histone cluster 1, H3h (H3T1H3H). mRNA [NM_003536]   |
| A_23_P115372   | -2.660 | -1.411 | 2.660 | PRKCI   | Homo sapiens protein rich 9 like (PRKCI). transcript variant 2. mRNA [NM_024841]  |
| A_23_P330571   | -2.659 | -1.410 | 2.659 | CRP   | Homo sapiens C-reactive protein (CRP). mRNA [NM_001001]   |
| A_22_P0005971  | -2.659 | -1.410 | 2.659 | LOC100502722  | Small nuclear RNA (snRNA) for protein-tyrosine phosphatase SH-PTPase. [Source:Ensembl;Acc:ENST00000248421]                  |
| A_33_P3242583  | -2.657 | -1.410 | 2.657 | PEP3  | Homo sapiens nuclear pore associated factor 3 (PEP3). mRNA [NM_008360]  |
| A_33_P3356163  | -2.657 | -1.410 | 2.657 | INPAP1  | Homo sapiens nuclear pore associated protein 1 (INPAP1). mRNA [NM_010868]   |
| A_33_P3414157  | -2.657 | -1.410 | 2.657 | MUP1  | Homo sapiens melanostatin (MUP1). transcript variant 1. mRNA [NM_024101]  |
| A_24_P379174   | -2.657 | -1.410 | 2.657 | RAB27A  | Homo sapiens RAB27A, member RAS oncogene family (RAB27A). transcript variant 1. mRNA [NM_004590]                            |
| A_22_P0013069  | -2.657 | -1.410 | 2.657 | Tubulin beta-8 chain-like protein LOC200334                 | [Source:UniProtKB/Swiss-Prot;Acc:R6N2Z2]  |
| A_33_P3221788  | -2.656 | -1.409 | 2.656 | RAB22A  | Homo sapiens RAB22A, member RAS oncogene family (RAB22A). mRNA [NM_020873]  |
| A_23_P14622    | -2.656 | -1.409 | 2.656 | C2orf44   | Homo sapiens chromosome 2 open reading frame 44 (C2orf44). transcript variant 1. mRNA [NM_029203]                           |
| A_33_P3397323  | -2.656 | -1.409 | 2.656 | ZNF441  | Homo sapiens zinc finger protein 441 (ZNF441). mRNA [NM_152959]   |
| A_33_P3344816  | -2.656 | -1.409 | 2.656 | ZNF813  | Homo sapiens zinc finger protein 813 (ZNF813). mRNA [NM_001064301]  |
| A_33_P3308949  | -2.656 | -1.409 | 2.656 | DBT   | Homo sapiens diphthaloylamide branched chain transacylase E2 (DBT). mRNA [NM_001919]  |
| A_33_P3355065  | -2.656 | -1.409 | 2.656 | C6orf48   | Homo sapiens chromosome 6 open reading frame 48 (C6orf48). transcript variant 4. mRNA [NM_001287483]                        |
| A_23_P328259   | -2.654 | -1.408 | 2.654 | FHDC3   | Homo sapiens FHL2 domain containing 1 (FHDC3). mRNA [NM_033333]   |
| A_33_P3298850  | -2.654 | -1.408 | 2.654 | SLC16A8   | Homo sapiens solute carrier family 16 (monocarboxylate transporter), member 8 (SLC16A8). mRNA [NM_0135661]                  |
| A_33_P3321942  | -2.654 | -1.408 | 2.654 | ZNF436  | Homo sapiens zinc finger protein 436 (ZNF436). transcript variant 1. mRNA [NM_001077195]                                    |
| A_33_P3245011  | -2.654 | -1.408 | 2.654 | DAK   | Homo sapiens diphosphorylation kinase 2 homolog (S. cerevisiae) (DAK). mRNA [NM_015533]                                     |
| A_24_P349028   | -2.653 | -1.408 | 2.653 | TRAPPC9A  | Homo sapiens trafficking protein particle complex 9A (TRAPPC9A). transcript variant 1. mRNA [NM_024109]                     |
| A_32_P142818   | -2.653 | -1.408 | 2.653 | DLX1  | Homo sapiens distal-less homeobox 1 (DLX1). transcript variant 1. mRNA [NM_178120]  |
| A_24_P1422818  | -2.652 | -1.407 | 2.652 | HHRP3   | Homo sapiens HHRP interacting protein 3 (HHRP3). transcript variant 1. mRNA [NM_002680]                                     |
| A_24_P224456   | -2.651 | -1.407 | 2.651 | CAMLG   | Homo sapiens calcium modulating ligand (CAMLG). mRNA [NM_001745]  |
| A_33_P3219001  | -2.651 | -1.406 | 2.651 | FHIT  | Homo sapiens fragile histidine triad (FHIT). transcript variant 1. mRNA [NM_002012]   |
| A_24_P318839   | -2.650 | -1.406 | 2.650 | ZNF337  | Homo sapiens zinc finger protein 337 (ZNF337). transcript variant 2. mRNA [NM_0116565]                                      |
| A_22_P00003284 | -2.648 | -1.405 | 2.648 | MIR205HG  | Homo sapiens MIR205 host gene (non-protein coding) (MIR205HG). mRNA [NM_001106446]  |
| A_22_P00023712 | -2.648 | -1.405 | 2.648 | inc-IMEM9-1   | Sequence [BX024988]   |
| A_33_P3350374  | -2.647 | -1.404 | 2.647 | FAM213A   | Homo sapiens family with sequence similarity 213, member A (FAM213A). transcript variant 4. mRNA [NM_001243780]             |
| A_33_P3323065  | -2.646 | -1.404 | 2.646 | EBF1  | Homo sapiens Ets transcription factor 1 (EBF1). mRNA [NM_001089452]   |
| A_33_P3428675  | -2.645 | -1.403 | 2.645 | FAM68B1   | Homo sapiens family with sequence similarity 86, member B1 (FAM68B1). transcript variant 1. mRNA [NM_001083433]             |
| A_22_P00019636 | -2.645 | -1.403 | 2.645 | inc-IMEM9-1   | Sequence [BX024988]   |
| A_33_P3331021  | -2.642 | -1.402 | 2.642 | LOC100129148  | LOC100129148 (inc-IMEM9-1). long non-coding RNA [NR_033899]   |
| A_22_P00003175 | -2.642 | -1.402 | 2.642 | CHRNA7  | Homo sapiens uncharacterized LOC100129148 (LOC100129148). long non-coding RNA [NR_033899]                                   |
| A_32_P335609   | -2.641 | -1.401 | 2.641 | CHRNA7  | Homo sapiens cholinergic receptor, nicotinic alpha 7 (neuronal) (CHRNA7). transcript variant 2. mRNA [NM_001190455]         |

|                |        |       |      |      |  |
|----------------|--------|-------|------|------|--|
| A.22.P0004267  | -1.401 | 2.641 | down | down | Homo sapiens <i>dyx19c1</i> , axonemal, left chain 4 (DNAL4), mRNA, [NM.005740]  |
| A.23.P17880    | -1.401 | 2.640 | down | down | Homo sapiens immunoglobulin superfamily, member 9 (IGSF9), transcript variant 2, mRNA, [NM.020789]                       |
| A.23.P08441    | -1.400 | 2.640 | down | down | Homo sapiens immunoglobulin superfamily, member 9 (IGSF9), transcript variant 2, mRNA, [NM.020789]                       |
| A.23.P17155    | -1.400 | 2.639 | down | down | Homo sapiens SH3 domain binding protein 2 (SH3BP2), transcript variant 4, mRNA, [NM.00145855]                            |
| A.33.P3242743  | -1.400 | 2.639 | down | down | Homo sapiens ADP-ribosylation factor related protein 1 (ARFPP1), transcript variant 8, mRNA, [NM.001267549]              |
| A.23.P19721    | -1.400 | 2.638 | down | down | Homo sapiens zinc finger protein 991 (ZNF991), transcript variant 2, mRNA, [NM.0119311]                                  |
| A.19.P00310454 | -1.399 | 2.638 | down | down | Homo sapiens uncharacterized LOC101921189 (LOC101921189), long non-coding RNA, [NR.129842]                               |
| A.33.P3304654  | -1.398 | 2.635 | down | down | Homo sapiens transmembrane protein 1855 (TMEM1855), mRNA, [NM.024121]  |
| A.33.P3310320  | -1.397 | 2.634 | down | down | Homo sapiens SH3 domain binding protein 2 (SH3BP2), transcript variant 4, mRNA, [NM.00145855]                            |
| A.23.P06232    | -1.387 | 2.633 | down | down | Homo sapiens SH3 domain binding protein 2 (SH3BP2), transcript variant 4, mRNA, [NM.00145855]                            |
| A.23.P06232    | -1.387 | 2.633 | down | down | Homo sapiens SH3 domain binding protein 2 (SH3BP2), transcript variant 4, mRNA, [NM.00145855]                            |
| A.23.P326022   | -1.386 | 2.632 | down | down | Homo sapiens KIAA1317 (KIAA1317), transcript variant 1, mRNA, [NM.019590]  |
| A.33.P3263232  | -1.385 | 2.631 | down | down | Homo sapiens uncharacterized LOC101921189 (LOC101921189), long non-coding RNA, [NR.129842]                               |
| A.23.P19000    | -1.385 | 2.630 | down | down | Homo sapiens phosphatidic acid phosphatase type 2A (PPAP2A), transcript variant 2, mRNA, [NM.176995]                     |
| A.33.P3202445  | -1.385 | 2.630 | down | down | Homo sapiens SMAD family member 5 (SMAD5), transcript variant 2, mRNA, [NM.001001419]                                    |
| A.23.P203475   | -1.384 | 2.627 | down | down | Homo sapiens protein kinase C, delta binding protein (PRKCBP), mRNA, [NM.145040]   |
| A.23.P376027   | -1.382 | 2.625 | down | down | Homo sapiens D-2-hydroxyglutarate dehydrogenase (DHGDH), transcript variant 1, mRNA, [NM.152783]                         |
| A.23.P06428    | -1.382 | 2.624 | down | down | Homo sapiens 2'-5'-oligoadenylate synthetase 1, 4b/48kDa (OAS1), transcript variant 2, mRNA, [NM.002534]                 |
| A.23.P04376    | -1.380 | 2.621 | down | down | Homo sapiens domain (EPF7)-like 1 (STOML1), transcript variant 1, mRNA, [NM.004809]                                      |
| A.22.P00012829 | -1.380 | 2.621 | down | down | Homo sapiens TMEM161B antisense RNA 1 (TMEM161B-AS1), transcript variant 4, long non-coding RNA, [NR.105019]             |
| A.33.P3304382  | -1.380 | 2.621 | down | down | Homo sapiens NADH dehydrogenase (ubiquinone) complex I, assembly factor 6 (NDUFA6), mRNA, [NM.152416]                    |
| A.33.P366884   | -1.380 | 2.620 | down | down | Homo sapiens plectin-like phospholipase domain containing 7 (PNPLA3), transcript variant 1, mRNA, [NM.009637]            |
| A.33.P3424062  | -1.389 | 2.619 | down | down | Homo sapiens potassium channel, voltage gated modifier subfamily F, member 1 (KCNF1), mRNA, [NM.002238]                  |
| A.19.P0804417  | -1.389 | 2.618 | down | down | Homo sapiens ORN14 (HUMAN ORN14) ZNF80 protein (Fragment), partial (8b) (THC2861381), mRNA, [NM.002238]                  |
| A.33.P0815008  | -1.387 | 2.616 | down | down | Homo sapiens LINC00673, long non-coding RNA, [NR.038488]   |
| A.21.P0000960  | -1.387 | 2.616 | down | down | Homo sapiens long intergenic non-protein coding RNA 678 (LINC00678), long non-coding RNA, [NR.038488]                    |
| A.33.P336193   | -1.386 | 2.614 | down | down | Homo sapiens amylose, alpha 1C (salivary) (AMY1C), mRNA, [NM.00100219]   |
| A.22.P0001777  | -1.386 | 2.613 | down | down | Homo sapiens full length insert cDNA clone ZDB812.1AF (088275), mRNA, [NM.002238]  |
| A.33.P7457959  | -1.386 | 2.613 | down | down | Homo sapiens RBM28 antisense RNA 1 (RBM28-AS1), long non-coding RNA, [NR.088991]   |
| A.22.P00007178 | -1.386 | 2.613 | down | down | Homo sapiens LINC00673, long non-coding RNA, [NR.038488]   |
| A.23.P26598    | -1.385 | 2.612 | down | down | Homo sapiens LINC00673, long non-coding RNA, [NR.038488]   |
| A.21.P000969   | -1.385 | 2.611 | down | down | Homo sapiens LINC00673, long non-coding RNA, [NR.038488]   |
| A.33.P3267007  | -1.385 | 2.611 | down | down | Homo sapiens LINC00673, long non-coding RNA, [NR.038488]   |
| A.21.P0008354  | -1.384 | 2.610 | down | down | PREDICTED: Homo sapiens uncharacterized LOC729270 (LOC729270), misc. RNA, [XR.244739]                                    |
| A.23.P19435    | -1.384 | 2.610 | down | down | Homo sapiens mediator of DNA damage checkpoint 1 (MDC1), mRNA, [NM.014654]   |
| A.23.P46059    | -1.384 | 2.609 | down | down | Homo sapiens Fc receptor-like 2 (FCRL2), transcript variant 2, mRNA, [NM.002239]   |
| A.24.P132489   | -1.383 | 2.609 | down | down | Homo sapiens microsome binding domain 9 (HMG9), transcript variant 2, mRNA, [NM.138391]                                  |
| A.24.P544862   | -1.382 | 2.607 | down | down | Homo sapiens signal sequence receptor alpha (SSR1), transcript variant 1, mRNA, [NM.003144]                              |
| A.22.P00010240 | -1.382 | 2.607 | down | down | Homo sapiens LINC004863399, transcript variant 3, long non-coding RNA, [NR.130145]                                       |
| A.23.P08007    | -1.382 | 2.606 | down | down | Homo sapiens ATPase, H(+)-K(+)-transporting, beta 3, non-muscle (ATP1B3), mRNA, [NM.001670]                              |
| A.23.P110167   | -1.381 | 2.605 | down | down | Homo sapiens microsome glutathione S-transferase 2 (MGST2), transcript variant 1, mRNA, [NM.002413]                      |
| A.24.P14280    | -1.381 | 2.605 | down | down | Homo sapiens caspase recruitment domain family, member 8 (CAR8), transcript variant 2, mRNA, [NM.014859]                 |
| A.23.P203829   | -1.381 | 2.605 | down | down | Homo sapiens zinc finger protein 10 (ZNF10), mRNA, [NM.015394]   |
| A.33.P3402489  | -1.381 | 2.604 | down | down | Homo sapiens 2'-5'-oligoadenylate synthetase 3, 100kDa (OAS3), mRNA, [NM.006187]   |
| A.33.P3407638  | -1.380 | 2.604 | down | down | Homo sapiens ADP-ribosylation factor-like 14 effector protein (ARL14EP), mRNA, [NM.152316]                               |
| A.24.P365753   | -1.380 | 2.603 | down | down | Homo sapiens NFkB activating protein pseudogene 1 (NKAPP1), non-coding RNA, [NR.027131]                                  |
| A.23.P144578   | -1.380 | 2.602 | down | down | Homo sapiens glucosaminyl-6-phosphate deaminase 2 (GNPD2), transcript variant 1, mRNA, [NM.138335]                       |
| A.33.P3365073  | -1.379 | 2.602 | down | down | Homo sapiens epigallocatechin gallate (EGCG) binding protein 1 (EBP1), transcript variant 3, non-coding RNA, [NR.038029] |
| A.24.P080175   | -1.379 | 2.601 | down | down | Homo sapiens uncharacterized LOC101921189 (LOC101921189), long non-coding RNA, [NR.129842]                               |
| A.21.P0006315  | -1.379 | 2.601 | down | down | Homo sapiens uncharacterized LOC101921189 (LOC101921189), long non-coding RNA, [NR.129842]                               |
| A.23.P090503   | -1.379 | 2.600 | down | down | Homo sapiens uncharacterized LOC101921189 (LOC101921189), long non-coding RNA, [NR.129842]                               |
| A.33.P3375834  | -1.378 | 2.600 | down | down | Homo sapiens nicotinamide phosphoribosyltransferase (NAMPT), mRNA, [NM.005746]   |
| A.33.P3248052  | -1.378 | 2.600 | down | down | Homo sapiens neocilin 4, Y-linked (NLGN4Y), transcript variant 2, mRNA, [NM.001164238]                                   |
| A.23.P47865    | -1.378 | 2.600 | down | down | Homo sapiens leucine-rich repeats and immunoglobulin-like domains 3 (LRIG3), transcript variant 2, mRNA, [NM.153377]     |
| A.23.P211207   | -1.377 | 2.598 | down | down | Homo sapiens adenosine deaminase, RNA-specific, B1 (ADA RB1), transcript variant 1, mRNA, [NM.001112]                    |
| A.32.P210820   | -1.377 | 2.598 | down | down | Homo sapiens tumor necrosis factor, alpha-induced protein 8 (TNFAIP8), transcript variant 1, mRNA, [NM.014350]           |
| A.33.P3399318  | -1.377 | 2.597 | down | down | Homo sapiens guanine nucleotide binding protein (G protein), gamma 12 (GNGL2), mRNA, [NM.018841]                         |
| A.24.P2202026  | -1.376 | 2.596 | down | down | Homo sapiens cytochrome b5 domain containing 2 (CY5B2), transcript variant 1, mRNA, [NM.144611]                          |
| A.33.P3248104  | -1.376 | 2.595 | down | down | Homo sapiens tubulin tyrosine ligase-like family member 7 (TTL7), mRNA, [NM.024698]                                      |
| A.19.P00310048 | -1.376 | 2.595 | down | down | Homo sapiens ZEB1 antisense RNA 1 (ZEB1-AS1), long non-coding RNA, [NR.024294]   |
| A.24.P337176   | -1.375 | 2.594 | down | down | Homo sapiens glutathione S-transferase theta (GSTT4), transcript variant 1, mRNA, [NM.002063]                            |
| A.24.P337176   | -1.375 | 2.594 | down | down | Homo sapiens glutathione S-transferase theta (GSTT4), transcript variant 1, mRNA, [NM.002063]                            |
| A.24.P337176   | -1.375 | 2.594 | down | down | Homo sapiens glutathione S-transferase theta (GSTT4), transcript variant 1, mRNA, [NM.002063]                            |
| A.24.P337176   | -1.375 | 2.594 | down | down | Homo sapiens glutathione S-transferase theta (GSTT4), transcript variant 1, mRNA, [NM.002063]                            |
| A.33.P3618434  | -1.374 | 2.592 | down | down | Homo sapiens cytoskeletal hydrophobic domain 1 (CHC1), transcript variant 1, mRNA, [NM.00103840]                         |
| A.33.P3210063  | -1.374 | 2.592 | down | down | Homo sapiens RanBP-type and CCHC4-type zinc finger containing 1 (RBBCK1), transcript variant 2, mRNA, [NM.031229]        |
| A.23.P166051   | -1.374 | 2.591 | down | down | Homo sapiens RanBP-type and CCHC4-type zinc finger containing 1 (RBBCK1), transcript variant 2, mRNA, [NM.031229]        |

|                |        |        |       |                 |      |  |
|----------------|--------|--------|-------|-----------------|------|--|
| A.23.P23575    | -2.590 | -1.373 | 2.590 | SLC39A1         | down | Homo sapiens soluble carrier family 39, zinc transporter, member 1 (SLC39A1), transcript variant 1, mRNA [NM_0114437]                          |
| A.24.P361420   | -2.590 | -1.373 | 2.590 | ZDHHC3          | down | Homo sapiens zinc finger, DHHC-type containing 3 (ZDHHC3), transcript variant 2, mRNA [NM_018598]  |
| A.33.P3308105  | -2.586 | -1.371 | 2.586 | GGH             | down | Homo sapiens gamma-glutamyl hydrolase (conjugase, poly(gamma-glutamyl) hydrolase) (GGH), mRNA [NM_008778]                                      |
| A.33.P3402078  | -2.586 | -1.371 | 2.586 | BAD             | down | BCL2-associated agent of cell death [Source:HGNC Symbol;Acc:HGNC:936] [ENST00000544271]  |
| A.23.P206228   | -2.584 | -1.370 | 2.584 | VPS13C          | down | Homo sapiens vesicular protein sorting 13 homolog C (S. cerevisiae) (VPS13C), transcript variant 2A, mRNA [NM_028921]                          |
| A.23.P385105   | -2.584 | -1.369 | 2.584 | PLD4            | down | Homo sapiens phospholipase C, delta 4 (PLD4), mRNA [NM_032726]   |
| A.32.P23198    | -2.583 | -1.369 | 2.583 | PLA2G4          | down | Homo sapiens cytosolic phospholipase A2, group IIA, membrane protein associated protein B and C (VAPB), transcript variant 1, mRNA [NM_004798] |
| A.33.P336596   | -2.582 | -1.369 | 2.582 | VAPB            | down | Homo sapiens cytosolic phospholipase A2, group IIA, membrane protein associated protein B and C (VAPB), transcript variant 1, mRNA [NM_004798] |
| A.33.P33302625 | -2.582 | -1.369 | 2.582 | ARI4D           | down | Homo sapiens ADP-acyltransferase-like 4D (ARI4D), mRNA [NM_001681]   |
| A.33.P3323062  | -2.582 | -1.369 | 2.582 | ARI4D           | down | AGC034349 [ENST0000047412]   |
| A.24.P248484   | -2.582 | -1.368 | 2.582 | ZNF559          | down | Homo sapiens zinc finger protein, 559 (ZNF559), transcript variant 2, mRNA [NM_032497]   |
| A.33.P3419891  | -2.580 | -1.367 | 2.580 | GATS            | down | Homo sapiens GATS, stromal antigen 3 opposite strand (GATS), transcript variant 2, non-coding RNA [NR_028838]                                  |
| A.21.P0014089  | -2.580 | -1.367 | 2.580 | LOC101927027    | down | Homo sapiens uncharacterized LOC101927027, transcript variant 2, long non-coding RNA [NR_110295]   |
| A.23.P100795   | -2.580 | -1.367 | 2.580 | STAT3           | down | Homo sapiens signal transducer and activator of transcription 3 (acute-phase response factor) (STAT3), transcript variant 3, mRNA [NM_0123662] |
| A.32.P420520   | -2.579 | -1.367 | 2.579 | THAP7-AS1       | down | Homo sapiens THAP7 antisense RNA 1 (THAP7-AS1), transcript variant 1, long non-coding RNA [NR_027051]  |
| A.33.P323881   | -2.579 | -1.366 | 2.579 | ALG10           | down | Homo sapiens ALG10, alpha-1,2-glucosyltransferase (ALG10), mRNA [NM_032834]  |
| A.21.P301894   | -2.577 | -1.366 | 2.577 | inc-PPAL46-4    | down | Homo sapiens cDNA clone IMAGE392322, partial cds [BC012733]  |
| A.23.P32817    | -2.575 | -1.365 | 2.575 | HUST1-HK        | down | Homo sapiens mRNA for hypoxanthine phosphoribosyl transferase 1, transcript variant 2, mRNA [NM_036341]  |
| A.24.P25283    | -2.575 | -1.364 | 2.575 | HDAC3           | down | Homo sapiens histone deacetylase 3 (HDAC3), transcript variant 1, mRNA [NM_001015663]  |
| A.23.P33644    | -2.574 | -1.364 | 2.574 | PRR7            | down | Homo sapiens protein cdk7 (Syaenetic) (PRR7), transcript variant 1, mRNA [NM_030367]   |
| A.33.P3335949  | -2.573 | -1.364 | 2.573 | FLVCH1          | down | Homo sapiens ELVCH1-type zinc finger 1 (FLVCH1), transcript variant 1, mRNA [NM_032298]  |
| A.23.P34851    | -2.572 | -1.363 | 2.572 | EFS             | down | Homo sapiens embryonal Fyn-associated substrate (EFS), transcript variant 1, mRNA [NM_003864]  |
| A.23.P347466   | -2.572 | -1.363 | 2.572 | SLX4IP          | down | Homo sapiens SLX4 interacting protein (SLX4IP), mRNA [NM_001009608]  |
| A.23.P37265    | -2.572 | -1.363 | 2.572 | APSM1           | down | Homo sapiens adaptor-related protein complex 5, mu 1 subunit (APSM1), transcript variant 1, mRNA [NM_018229]                                   |
| A.23.P182746   | -2.571 | -1.363 | 2.571 | CRYL1           | down | Homo sapiens crystallin, lambda1 (CRYL1), mRNA [NM_015914]   |
| A.22.P090210   | -2.571 | -1.362 | 2.571 | RLN1            | down | Homo sapiens relaxin 1 (RLN1), mRNA [NM_006911]  |
| A.22.P0000577  | -2.570 | -1.362 | 2.570 | DYNLL2          | down | Homo sapiens light chain, LC8-type 2 [Source:HGNC Symbol;Acc:HGNC:24596] [ENST00000579991]   |
| A.21.P0014740  | -2.570 | -1.362 | 2.570 | GAA             | down | Homo sapiens glucosylase, alpha acid (GAA), transcript variant 1, mRNA [NM_00152]  |
| A.23.P15026    | -2.570 | -1.362 | 2.570 | GAA             | down | PREDICTED: Homo sapiens chromosome 6 open reading frame 141 (C6orf141), transcript variant X2, mRNA [XM_00248851]                              |
| A.33.P3404739  | -2.569 | -1.361 | 2.569 | O6orf141        | down | Homo sapiens oxidostannoid (OXE) receptor 1 (OXER1), mRNA [NM_148892]  |
| A.33.P322203   | -2.568 | -1.361 | 2.568 | OXYER1          | down | Homo sapiens oxidostannoid (OXE) receptor 1 (OXER1), mRNA [NM_148892]  |
| A.23.P336936   | -2.568 | -1.361 | 2.568 | RPMID           | down | Homo sapiens domain containing 1 (G03D02), transcript variant 2, mRNA [NM_015381]  |
| A.33.P3266315  | -2.566 | -1.359 | 2.566 | SHGGB1          | down | Homo sapiens SH2 domain G827-like endophilin B1 (SHGGB1), transcript variant 2, mRNA [NM_001204651]  |
| A.32.P333936   | -2.565 | -1.359 | 2.565 | WEE2-AS1        | down | Homo sapiens WEE2 antisense RNA 1 (WEE2-AS1), long non-coding RNA [NR_015302]  |
| A.24.P221897   | -2.565 | -1.359 | 2.565 | ZFRAN3          | down | Homo sapiens zinc finger, RAN-binding domain containing 3 (ZFRAN3), transcript variant 1, mRNA [NM_032143]                                     |
| A.33.P3382024  | -2.565 | -1.359 | 2.565 | SPARC           | down | Homo sapiens secreted protein, acidic, osteonectin-rich (osteonectin) (SPARC), mRNA [NM_003118]  |
| A.23.P793902   | -2.564 | -1.358 | 2.564 | LYPD6B          | down | Homo sapiens LY6/PLAUR domain containing 6B (LYPD6B), mRNA [NM_177864]   |
| A.33.P3238157  | -2.563 | -1.358 | 2.563 | UNG             | down | Homo sapiens uracil-DNA glycosylase (UNG), transcript variant 1, mRNA [NM_003342]  |
| A.33.P300385   | -2.563 | -1.358 | 2.563 | APT1D1          | down | Homo sapiens apoptosis-inducing, TAF9-like domain 1 (APT1D1), transcript variant A, mRNA [NM_189294]   |
| A.21.P0000684  | -2.563 | -1.358 | 2.563 | LOC101929288    | down | Homo sapiens uncharacterized LOC101929288, long non-coding RNA [NR_05002]  |
| A.33.P3316358  | -2.562 | -1.357 | 2.562 | ZNF780B         | down | Homo sapiens zinc finger protein 780B (ZNF780B), mRNA [NM_001009851]   |
| A.33.P3413845  | -2.561 | -1.357 | 2.561 | TMM13           | down | Homo sapiens transcriptase of inner mitochondrial membrane 13 homolog (yeast) (TMM13), mRNA [NM_02459]   |
| A.33.P3362900  | -2.561 | -1.356 | 2.561 | FAM228B         | down | Homo sapiens family with sequence similarity 228, member B (FAM228B), transcript variant 1, mRNA [NM_00146710]                                 |
| A.32.P43812    | -2.560 | -1.356 | 2.560 | DCUN1D4         | down | Homo sapiens DCUN1, 4d, active in collagen neddylator 1, domain containing 4 (DCUN1D4), transcript variant 1, mRNA [NM_004040]                 |
| A.23.P336507   | -2.560 | -1.356 | 2.560 | POPOC3          | down | Homo sapiens POPOC3 domain containing 3 (POPOC3), transcript variant 1, mRNA [NM_022281]   |
| A.23.P217297   | -2.560 | -1.356 | 2.560 | ZNF711          | down | Homo sapiens zinc finger protein 711 (ZNF711), mRNA [NM_021898]  |
| A.24.P38019    | -2.559 | -1.356 | 2.559 | ZNF551          | down | Homo sapiens zinc finger protein 551 (ZNF551), transcript variant 1, mRNA [NM_138347]  |
| A.23.P397000   | -2.559 | -1.356 | 2.559 | XKR6            | down | Homo sapiens XK, Kell blood group complex subunit-related family, member 6 (XKR6), mRNA [NM_173683]  |
| A.21.P0000933  | -2.558 | -1.355 | 2.558 | inc-C20orf187-2 | down | LINGpeda lincRNA (inc-C20orf187-2), lincRNA [inc-C20orf187-2.1]  |
| A.23.P10473    | -2.556 | -1.354 | 2.556 | NAIP            | down | Homo sapiens NAL family, apoptosis inhibitor protein (NAIP), transcript variant 1, mRNA [NM_004536]  |
| A.21.P0000884  | -2.555 | -1.353 | 2.555 | LOC10050548     | down | Homo sapiens uncharacterized LOC10050548 (LOC10050548), long non-coding RNA [NR_037865]  |
| A.33.P3482147  | -2.555 | -1.353 | 2.555 | STAR13          | down | STAR1-related lipid transfer (START) domain containing 13 [Source:HGNC Symbol;Acc:HGNC:19184] [ENST00000487412]                                |
| A.23.P38154    | -2.555 | -1.353 | 2.555 | FDXR            | down | Homo sapiens ferredoxin reductase (FDXR), transcript variant 2, mRNA [NM_004110]   |
| A.24.P1745     | -2.554 | -1.353 | 2.554 | TTG30A          | down | Homo sapiens tetraoctapeptide repeat domain 30A (TTG30A), mRNA [NM_152275]   |
| A.33.P324593   | -2.554 | -1.353 | 2.554 | IRGS5           | down | Homo sapiens regulator of G-protein signaling 5 (IRGS5), transcript variant 1, mRNA [NM_033917]  |
| A.23.P330388   | -2.553 | -1.352 | 2.553 | KAHNS           | down | Homo sapiens alanyl-tRNA synthetase 2, mitochondrial (KAHNS), mRNA [NM_020745]   |
| A.23.P330388   | -2.552 | -1.351 | 2.552 | IRGS2           | down | Homo sapiens TBC1 domain family, member 2B (TBC1D28), transcript variant 2, mRNA [NM_015079]   |
| A.33.P330388   | -2.552 | -1.351 | 2.552 | IRGS2           | down | Homo sapiens uncharacterized LOC100505488, transcript variant 1, mRNA [NM_016239]  |
| A.23.P212473   | -2.549 | -1.350 | 2.549 | SH3BP2          | down | Homo sapiens SH3 domain family, member 2 (SH3BP2), transcript variant 1, mRNA [NM_016239]  |
| A.33.P3225967  | -2.549 | -1.350 | 2.549 | TRMT2B          | down | Homo sapiens tRNA methyltransferase 2 homolog B (S. cerevisiae) (TRMT2B), transcript variant 1, mRNA [NM_024817]                               |
| A.22.P00015679 | -2.548 | -1.349 | 2.548 | SYNPO           | down | axonalactodin [Source:HGNC Symbol;Acc:HGNC:30872] [ENST00000394243]  |
| A.33.P3397658  | -2.547 | -1.349 | 2.547 | SYNPO           | down | Homo sapiens soluble carrier family 38, member 10 (SLC39A10), transcript variant 1, mRNA [NM_001037984]  |
| A.23.P5011     | -2.547 | -1.349 | 2.547 | SLC39A10        | down | Homo sapiens soluble carrier family 38, member 10 (SLC39A10), transcript variant 1, mRNA [NM_001037984]  |

|                |      |        |        |                               |   |
|----------------|------|--------|--------|-------------------------------|---|
| A.33.P3397419  | down | -1.349 | -2.547 | ZC3HAV1                       | Homo sapiens zinc finger CCHC1-type, antiviral 1 [CG3HAV1], transcript variant 1, mRNA [NM.0201019]   |
| A.33.P339820   | down | -1.349 | -2.547 | hnc-LHD05-1                   | HUMPTLH parathyroid-like protein precursor [Homo sapiens] (exp=-1, wip=0, ceg=0), partial (1%) [THC2730443]   |
| A.19.P00009662 | down | -1.348 | -2.545 | hnc-FAM105B-1                 | Homo sapiens cDNA IMAGE4309177, **** WARNING: chimeric clone ****, [BC014023]   |
| A.23.P121386   | down | -1.347 | -2.543 | DNAJC19                       | Homo sapiens DnaJ (Hsp40) homolog, subfamily C, member 19 (DNAJC19), transcript variant 1, mRNA [NM.149261]   |
| A.21.P0014067  | down | -1.346 | -2.543 | LINC01353                     | Homo sapiens long intergenic non-protein coding RNA 1353 (LINC01353), transcript variant 1, long non-coding RNA [NR.117097]   |
| A.22.P00021758 | down | -1.346 | -2.542 | LOC642866                     | Homo sapiens uncharacterized LOC642866 (LOC642866), long non-coding RNA [NR.069243]   |
| A.33.P3388957  | down | -1.346 | -2.542 | TTL1                          | Homo sapiens tubulin tyrosine ligase-like family member 1 (TTL1), transcript variant 1, mRNA [NM.072363]  |
| A.23.P46149    | down | -1.346 | -2.542 | GPR137B                       | Homo sapiens G protein-coupled receptor 137B (GPR137B), mRNA [NM.033272]  |
| A.23.P57248    | down | -1.345 | -2.540 | CXADR                         | Homo sapiens conserved virus and adenovirus receptor (CXADR), transcript variant 1, mRNA [NM.001331]  |
| A.23.P143334   | down | -1.345 | -2.540 | MAOR02                        | MAOR02 domain containing 2 [Source:HGNC Symbol;Acc:HGNC:18128] [ENST00000462592]  |
| A.23.P396062   | down | -1.345 | -2.540 | RAB40C                        | Homo sapiens RAB40C, member RAS oncogene family (RAB40C), transcript variant 2, mRNA [NM.021168]  |
| A.23.P50946    | down | -1.344 | -2.539 | RAMP1                         | Homo sapiens receptor (G protein-coupled) activity modifying protein 1 (RAMP1), mRNA [NM.005895]  |
| A.23.P3036472  | down | -1.344 | -2.539 | STON2                         | Homo sapiens cDNA FL141899, fic, clone SPLEIN204683, [AK123933]   |
| A.23.P098837   | down | -1.343 | -2.538 | STON2                         | Homo sapiens stonin 2 (STON2), transcript variant 1, mRNA [NM.033164]   |
| A.33.P3671291  | down | -1.342 | -2.535 | SNORA12                       | EST10089 Synovial sarcoma Homo sapiens cDNA B, end, mRNA sequenced [AA378892]   |
| A.23.P242278   | down | -1.341 | -2.533 | CASP1                         | Homo sapiens caspase 1, apoptotic-related cysteine peptidase (CASP1), transcript variant alpha, mRNA [NM.032929]  |
| A.22.P00003285 | down | -1.340 | -2.531 | MIF205HG                      | Homo sapiens MIF205 heat gene (non-protein coding) (MIF205HG), mRNA [NM.001106458]  |
| A.23.P09310    | down | -1.340 | -2.531 | GSTF3                         | Homo sapiens cytidine and dCMP deaminase domain containing 1 (GDADOC1), transcript variant 1, mRNA [NM.001326]  |
| A.23.P48295    | down | -1.339 | -2.530 | GDADOC1                       | Homo sapiens cytidine and dCMP deaminase domain containing 1 (GDADOC1), transcript variant 1, mRNA [NM.032911]  |
| A.23.P211212   | down | -1.339 | -2.529 | COL18A1                       | Homo sapiens collagen, type XVII, alpha 1 (COL18A1), transcript variant 1, mRNA [NM.030582]   |
| A.23.P348298   | down | -1.338 | -2.529 | SAC3D1                        | Homo sapiens SAC3 domain containing 1 (SAC3D1), mRNA [NM.013249]  |
| A.24.P147165   | down | -1.338 | -2.528 | FOXRED2                       | Homo sapiens FOX-2-dependent oxidoreductase domain containing 2 (FOXRED2), transcript variant 1, mRNA [NM.024935]   |
| A.33.P3388134  | down | -1.338 | -2.528 | FOX2                          | Homo sapiens foxo2 (FOX2), transcript variant 1, mRNA [NM.028289]   |
| A.23.P200030   | down | -1.338 | -2.528 | PFGT                          | Homo sapiens fucose-1-phosphate glymyltransferase (PFGT), transcript variant 1, mRNA [NM.003838]  |
| A.33.P3346762  | down | -1.338 | -2.527 | CYP2S1                        | CYP2S1, family 2, subfamily S, polypeptide 1 [Source:HGNC Symbol;Acc:HGNC:18654] [ENST00000693545]  |
| A.22.P00020347 | down | -1.336 | -2.524 | SLC13A2                       | Homo sapiens solute carrier family 13 (sodium-dependent dicarboxylate transporter), member 2 (SLC13A2), transcript variant 2, mRNA [NM.005894]                                  |
| A.33.P3313055  | down | -1.334 | -2.521 | NOTCH3                        | Homo sapiens notch 3 (NOTCH3), mRNA [NM.000435]   |
| A.23.P16168    | down | -1.333 | -2.520 | REB4B                         | Homo sapiens RNA binding motif protein 4B (REB4B), transcript variant 1, mRNA [NM.031492]   |
| A.33.P3275381  | down | -1.333 | -2.520 | MDZP1                         | Homo sapiens MD, repeat domain 73 (MDZP1), transcript variant 2, mRNA [NM.027014]   |
| A.23.P433078   | down | -1.333 | -2.519 | ZNF329                        | Homo sapiens zinc finger protein 329 (ZNF329), transcript variant 2, mRNA [NM.028951]   |
| A.23.P17133    | down | -1.333 | -2.519 | TRICK                         | Homo sapiens trikin, Ov-4/19, mdf containing 1 (TRICK), transcript variant 1, mRNA [NM.001171786]   |
| A.22.P0003072  | down | -1.332 | -2.518 | hnc-IDU2-1                    | Homo sapiens cDNA FL131419, fic, clone NP26200356, [AC055951]   |
| A.33.P0405379  | down | -1.332 | -2.518 | MOMDC2                        | Homo sapiens mitohomocysteine methyltransferase domain containing 2 (MOMDC2), transcript variant 2, mRNA [NM.001136160]   |
| A.24.P118260   | down | -1.332 | -2.518 | endostatin alpha pseudogene 3 | endostatin alpha pseudogene 3 [Source:HGNC Symbol;Acc:HGNC:37946] [ENS00000312710]  |
| A.33.P3277868  | down | -1.332 | -2.517 | IFNARI                        | Homo sapiens interferon (alpha, beta and omega) receptor 1 (IFNARI), mRNA [NM.000629]   |
| A.32.P116058   | down | -1.331 | -2.517 | LINC00894                     | Homo sapiens long intergenic non-protein coding RNA 94 (LINC00894), long non-coding RNA [NR.015427]   |
| A.21.P0004085  | down | -1.331 | -2.516 | GRIIN5                        | GRIIN5, BRUN1 (GRIIN5), NADH dehydrogenase subunit 2, partial (5), [THC2867709]   |
| A.33.P3231367  | down | -1.331 | -2.516 | ATXN10                        | Homo sapiens ataxin 10 (ATXN10), transcript variant 1, mRNA [NM.013236]   |
| A.23.P363838   | down | -1.331 | -2.516 | HSPA4L                        | Homo sapiens heat shock 70kDa protein 4-like (HSPA4L), mRNA [NM.014278]   |
| A.24.P126425   | down | -1.331 | -2.515 | FAM188B                       | Homo sapiens family with sequence similarity 188, member B (FAM188B), mRNA [NM.032222]  |
| A.33.P3210237  | down | -1.330 | -2.514 | BZW2                          | Homo sapiens basic leucine zipper and WZ domains 2 (BZW2), transcript variant 1, mRNA [NM.001159787]  |
| A.24.P388972   | down | -1.330 | -2.514 | COO2                          | Homo sapiens coenzyme Q7 homolog, ubiquinone (yeast) (COQ7), transcript variant 1, mRNA [NM.0101338]  |
| A.24.P363546   | down | -1.329 | -2.513 | HIP1                          | Homo sapiens huntingtin-interacting protein 1 (HIP1), transcript variant 1, mRNA [NM.035338]  |
| A.22.P00009722 | down | -1.328 | -2.511 | MCTP2                         | Homo sapiens multiple C2 domains, transmembrane 2 (MCTP2), transcript variant 1, mRNA [NM.0183461]  |
| A.24.P2039894  | down | -1.328 | -2.511 | SMA4                          | Homo sapiens gliuronidase, beta pseudogene (SMA4), transcript variant 1, non-coding RNA [NR.0234281]  |
| A.33.P3365795  | down | -1.328 | -2.510 | THRS2                         | Homo sapiens thrombospondin 2 (THRS2), mRNA [NM.032427]   |
| A.23.P118538   | down | -1.327 | -2.510 | SLFN12                        | Homo sapiens schlafen family member 12 (SLFN12), transcript variant 1, mRNA [NM.018042]   |
| A.21.P0010047  | down | -1.327 | -2.509 | LINC0028495                   | Homo sapiens uncharacterized LOC10028495 (LOC10028495), long non-coding RNA [NR.040022]   |
| A.23.P359214   | down | -1.327 | -2.509 | LINC00842                     | Homo sapiens long intergenic non-protein coding RNA 842 (LINC00842), long non-coding RNA [NR.0338577]   |
| A.23.P05165    | down | -1.327 | -2.508 | SEMA4B                        | Homo sapiens sema domain, immunoglobulin domain (Ig), transmembrane domain (TM), and short cytoplasmic domain, (semaphorin) 4B (SEMA4B), transcript variant 1, mRNA [NM.020210] |
| A.21.P0017208  | down | -1.327 | -2.508 | hnc-C21orf98-1                | Homo sapiens cDNA FL145865, fic, clone CTONG2027955, [AK127972] [ENST00000607016]   |
| A.19.P00006911 | down | -1.326 | -2.507 | NUDT3                         | nucleic nucleoside diphosphate linked moiety X-type motif 3 [Source:HGNC Symbol;Acc:HGNC:8090] [ENST00000607016]  |
| A.22.P00025243 | down | -1.325 | -2.506 | hnc-SMBG-1                    | LINC00814 (hnc-SMBG-1), lincRNA [hnc-SMBG-1-1]  |
| A.23.P400378   | down | -1.325 | -2.506 | MTFR                          | Homo sapiens methyltetrahydrofolate reductase (MTHFR) [MTFR], mRNA [NM.005897]  |
| A.22.P0004127  | down | -1.325 | -2.505 | DJL2-AS1                      | Homo sapiens DJL2 domain binding protein 2 (DJL2-AS1), long non-coding RNA [NR.138416]  |
| A.24.P160874   | down | -1.324 | -2.505 | DJL2                          | Homo sapiens DJL2 domain binding protein 2 (DJL2), transcript variant 1, mRNA [NM.01025248]   |
| A.22.P00025846 | down | -1.324 | -2.503 | HDXA3                         | Homo sapiens homeobox A3 (HDXA3), mRNA [NM.152739]  |
| A.22.P00008267 | down | -1.323 | -2.502 | FOXO3                         | Homo sapiens F-box protein, 15 (FOXO3), transcript variant 1, mRNA [NM.132676]  |
| A.23.P342709   | down | -1.322 | -2.500 | PPP1R9B                       | Homo sapiens protein phosphatase 1, regulatory subunit 9B (PPP1R9B), mRNA [NM.032595]   |
| A.24.P376509   | down | -1.322 | -2.500 | LINC00814                     | Homo sapiens protein phosphatase 1, regulatory subunit 9B (PPP1R9B), mRNA [NM.032595]   |
| A.21.P00002620 | down | -1.322 | -2.499 | LINC00814                     | LINC00814 (hnc-TLKI-1), lincRNA [hnc-TLKI-1-1]  |



|                |      |        |       |               |  |
|----------------|------|--------|-------|---------------|--|
| A.33.P3300773  | down | -1.321 | 2.469 | TRIM66        | Homo sapiens tripartite motif containing 66 (TRIM66), mRNA [NM_014618]   |
| A.33.P3665912  | down | -1.321 | 2.469 | FAMD2A        | fam15c10:retrovirus-like protein domain containing 2A [Source:HGNC Symbol;Acc:HGNC:24252] [ENS:00000233379]                                |
| A.33.P3371130  | down | -1.321 | 2.469 | MARPK5        | Homo sapiens mitogen-activated protein kinase kinase kinase 5 (MAP3K5), mRNA [NM_009393]   |
| A.23.P394433   | down | -1.321 | 2.469 | ZNF555        | Homo sapiens zinc finger, BED-type containing 5 (ZNF555), transcript variant 1, mRNA [NM_021211]   |
| A.23.P31389    | down | -1.321 | 2.468 | PON2          | Homo sapiens paroxonase 2 (PON2), transcript variant 1, mRNA [NM_000305]   |
| A.22.P0001270  | down | -1.320 | 2.468 | Inc-RALGAP1-1 | Homo sapiens cDNA FL14181, clone CTG02979833 [AK123275]  |
| A.22.P0001847  | down | -1.320 | 2.467 | THOC7-AS1     | Homo sapiens THOC7 antisense RNA 1 (THOC7-AS1), long non-coding RNA [NR_104269]  |
| A.23.P251121   | down | -1.320 | 2.466 | GGC47         | Homo sapiens cell division cycle associated 7 (GGC47), transcript variant 1, mRNA [NM_031942]  |
| A.19.P0310219  | down | -1.320 | 2.466 | UBA7          | UBA7 [NM_001003191]  |
| A.23.P345168   | down | -1.319 | 2.466 | UBA7          | Homo sapiens ubiquitin-like modifier 7 (UBA7), mRNA [NM_001003191]   |
| A.24.P146363   | down | -1.319 | 2.465 | UBA7          | Homo sapiens ubiquitin-like modifier 7 (UBA7), transcript variant 1, mRNA [NM_022103]  |
| A.23.P101023   | down | -1.319 | 2.465 | ZNF687        | Homo sapiens zinc finger protein 687 (ZNF687), mRNA [NM_001003191]   |
| A.22.P0004683  | down | -1.319 | 2.464 | LOC10027068   | XPB/ICED: Homo sapiens uncharacterized LOC10027068 (LOC10027068), mRNA [NM_001003191]  |
| A.24.P367242   | down | -1.318 | 2.464 | AFAD1         | Homo sapiens adenylylation factor 1 (AFAD1), transcript variant 1, mRNA [NM_001003191]   |
| A.33.P343106   | down | -1.318 | 2.464 | ETV2          | Homo sapiens ets variant 2 (ETV2), transcript variant 1, mRNA [NM_014426]  |
| A.21.P0014629  | down | -1.318 | 2.463 | ZNF547        | Homo sapiens cDNA FL40004, clone ST042004194 [AK097223]  |
| A.33.P335822   | down | -1.317 | 2.462 | ZNF547        | Homo sapiens zinc finger protein 547 (ZNF547), transcript variant 1, mRNA [NM_000029282]   |
| A.23.P35987    | down | -1.317 | 2.461 | IKBKE         | Homo sapiens inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon (IKBKE), transcript variant 1, mRNA [NM_014402] |
| A.32.P35559    | down | -1.317 | 2.461 | APOM          | Homo sapiens apolipoprotein M (APOM), transcript variant 1, mRNA [NM_019101]   |
| A.32.P42245    | down | -1.316 | 2.460 | APOM          | Homo sapiens apolipoprotein M (APOM), transcript variant 1, mRNA [NM_019101]   |
| A.23.P165477   | down | -1.316 | 2.460 | 33orf18       | Homo sapiens chromosome 3 open reading frame 18 (33orf18), transcript variant 1, mRNA [NM_019210]  |
| A.21.P0007254  | down | -1.315 | 2.460 | LOC101927204  | Homo sapiens uncharacterized LOC101927204 (LOC101927204), long non-coding RNA [NR_110184]  |
| A.24.P169094   | down | -1.315 | 2.460 | UBR7          | Homo sapiens ubiquitin-protein ligase E3 component-1-recognin 7 (ubiquitin-recognin 7) (ubiquitin-recognin 7), mRNA [NM_019210]            |
| A.23.P361108   | down | -1.315 | 2.460 | UVSLARP       | Homo sapiens influenza virus NS1A binding protein (UVSLARP), mRNA [NM_006486]  |
| A.21.P0013924  | down | -1.314 | 2.467 | LOC101927208  | XPB/ICED: Homo sapiens uncharacterized LOC101927208 (LOC101927208), mRNA [X6_242025]   |
| A.24.P166504   | down | -1.314 | 2.466 | NDRG3         | Homo sapiens NDRG family member 3 (NDRG3), transcript variant 1, mRNA [NM_032013]  |
| A.23.P157515   | down | -1.313 | 2.465 | BZW2          | Homo sapiens basic leucine zipper and W2 domain 2 (BZW2), transcript variant 2, mRNA [NM_014608]   |
| A.24.P23258    | down | -1.313 | 2.465 | GRAM04        | Homo sapiens GRAM domain containing 4 (GRAM04), mRNA [NM_015124]   |
| A.33.P322107   | down | -1.313 | 2.464 | MIR205HG      | Homo sapiens MIR205 host gene (non-protein coding) (MIR205HG), mRNA [NM_001104648]   |
| A.24.P191452   | down | -1.313 | 2.464 | WDPR9         | Homo sapiens WD repeat domain 91 (WDPR9), mRNA [NM_014149]   |
| A.23.P215132   | down | -1.313 | 2.464 | EPAS1         | Homo sapiens endothelial PAS domain protein 1 (EPAS1), mRNA [NM_001430]  |
| A.23.P210210   | down | -1.312 | 2.464 | CEP95         | Homo sapiens centrosomal protein 95kDa-like (CEP95), transcript variant 2, mRNA [NM_208921]  |
| A.33.P339287   | down | -1.312 | 2.463 | IDUA          | Homo sapiens iduronidase, alpha-L- (IDUA), transcript variant 1, mRNA [NM_000203]  |
| A.19.P0489892  | down | -1.312 | 2.463 | OT1474        | Homo sapiens chromosome 11 open reading frame 74 (OT1474), transcript variant 1, mRNA [NM_00174722]  |
| A.21.P0011389  | down | -1.312 | 2.462 | XL00210507.6  | BROAD Institute IncRNA (XL00210507.6), lincRNA [TC005193]  |
| A.24.P394246   | down | -1.312 | 2.462 | SH3BP5        | Homo sapiens sh3p domain family member 5 (SH3BP5), transcript variant 1, mRNA [NM_019479]  |
| A.23.P313632   | down | -1.312 | 2.462 | FUT8          | Homo sapiens fucosyltransferase 8 (alpha 1,6) (fucosyltransferase) (FUT8), transcript variant 1, mRNA [NM_178159]                          |
| A.33.P334168   | down | -1.311 | 2.462 | TSLY          | Homo sapiens translocator (beta)-like 1 (TSLY), transcript variant 1, mRNA [NM_036477]   |
| A.19.P0321853  | down | -1.311 | 2.461 | LOC100151584  | Homo sapiens uncharacterized LOC100151584 (LOC100151584), long non-coding RNA [NR_024688]  |
| A.23.P29587    | down | -1.310 | 2.460 | TBC1D10B8     | Homo sapiens TBC1 domain family, member 48 (with GRAM domain) (TBC1D10B8), transcript variant 1, mRNA [NM_017192]                          |
| A.33.P3220617  | down | -1.310 | 2.479 | SGGE          | Homo sapiens sarcosylase (SGGE), transcript variant 1, mRNA [NM_001099401]   |
| A.23.P413923   | down | -1.310 | 2.479 | DMRTA1        | Homo sapiens DMRT-like family A1 (DMRTA1), mRNA [NM_022160]  |
| A.33.P3300117  | down | -1.309 | 2.478 | GNB4          | Homo sapiens guanine nucleotide binding protein (G protein), beta polypeptide 4 (GNB4), mRNA [NM_021629]                                   |
| A.32.P171313   | down | -1.309 | 2.478 | GNB4          | Homo sapiens guanine nucleotide binding protein (G protein), beta polypeptide 4 (GNB4), mRNA [NM_021629]                                   |
| A.21.P0014374  | down | -1.309 | 2.477 | EH02          | Homo sapiens EH-domain containing 2 (EH02), mRNA [NM_014460]   |
| A.24.P156113   | down | -1.309 | 2.477 | VAMP5         | Homo sapiens vesicle-associated membrane protein 5 (VAMP5), mRNA [NM_006634]   |
| A.23.P39840    | down | -1.308 | 2.476 | VAMP5         | Homo sapiens vesicle-associated membrane protein 5 (VAMP5), mRNA [NM_006634]   |
| A.24.P414256   | down | -1.308 | 2.476 | TMA7          | translation machinery associated 7 Homolog (S. cerevisiae) [Source:HGNC Symbol;Acc:HGNC:26932] [ENS:00000977694]                           |
| A.23.P30024    | down | -1.308 | 2.476 | NFKB1         | Homo sapiens nuclear factor of kappa light polypeptide gene enhancer in B-cells 1 (NFKB1), transcript variant 1, mRNA [NM_003898]          |
| A.22.P00014384 | down | -1.308 | 2.475 | SF3B1         | Homo sapiens splicing factor 3b, subunit 1 (SF3B1), mRNA [NM_012426]   |
| A.23.P201376   | down | -1.307 | 2.475 | SSX2IP        | Homo sapiens splicing factor 3b, subunit 2 interacting protein (SSX2IP), transcript variant 1, mRNA [NM_014029]                            |
| A.33.P3221480  | down | -1.306 | 2.472 | KRIBEL        | Homo sapiens zinc finger protein 503 (ZNF503), transcript variant 1, mRNA [NM_018240]  |
| A.24.P305530   | down | -1.306 | 2.472 | RIN2          | Homo sapiens Rho and Rab interactor 2 (RIN2), transcript variant 2, mRNA [NM_018993]   |
| A.24.P204043   | down | -1.306 | 2.472 | ZNF318        | Homo sapiens zinc finger protein 318 (ZNF318), mRNA [NM_014345]  |
| A.22.P00013803 | down | -1.305 | 2.471 | LOC100270804  | Q4SZP7: TETNG (Q4SZP7) Chromosome 17 SCAF14760, whole genome shotgun sequence, partial (3%) [THC26483966]                                  |
| A.33.P3268695  | down | -1.305 | 2.470 | ZNF503        | Homo sapiens zinc finger protein 503 (ZNF503), transcript variant 1, mRNA [NM_032772]  |
| A.23.P210383   | down | -1.304 | 2.470 | CCAC1A        | Homo sapiens zinc finger, C2H2-type containing 1A (CCAC1A), mRNA [NM_018010]   |
| A.22.P0008745  | down | -1.304 | 2.470 | TRAF3IP2-AS1  | Homo sapiens TRAF3IP2 antisense RNA 1 (TRAF3IP2-AS1), transcript variant 1, long non-coding RNA [NR_034108]                                |
| A.33.P337329   | down | -1.304 | 2.468 | TNFAIP8       | Homo sapiens uncharacterized LOC100270804 (LOC100270804), long non-coding RNA [NR_028855]  |
| A.33.P304052   | down | -1.303 | 2.468 | TNFAIP8       | Homo sapiens tumor necrosis factor, alpha-induced protein 8 (TNFAIP8), transcript variant 3, mRNA [NM_00128813]                            |
| A.32.P132386   | down | -1.303 | 2.467 | FAM88JP       | Homo sapiens family with sequence similarity 86, member J, pseudogene (FAM88JP), transcript variant 1, non-coding RNA [NR_024251]          |
| A.23.P24535    | down | -1.302 | 2.466 | LOC12         | Homo sapiens uncharacterized repeat domain 12 (LOC12), mRNA [NM_017808]  |
| A.24.P481375   | down | -1.302 | 2.466 | LOC100151584  | Homo sapiens uncharacterized LOC100151584 (LOC100151584), long non-coding RNA [NR_024688]  |
| A.23.P117163   | down | -1.302 | 2.465 | RCE1B1        | Homo sapiens RCE1 domain containing 1 (RCE1B1), mRNA [NM_018161]   |
| A.33.P308232   | down | -1.301 | 2.465 | COL1A2        | Homo sapiens family with sequence similarity 224, member A (non-protein coding) (FAM224A), long non-coding RNA [NR_002161]                 |
| A.33.P3214442  | down | -1.301 | 2.465 | COL1A2        | Homo sapiens collagen, type XI, alpha 2 (COL1A2), transcript variant 1, mRNA [NM_080690]   |
| A.19.P00320570 | down | -1.301 | 2.465 | linc-UBLCP1-4 | LINCpedia lincRNA (linc-UBLCP1-4), lincRNA [linc-UBLCP1-4]   |



|                |      |        |        |                |   |
|----------------|------|--------|--------|----------------|---|
| A.22.P00003286 | down | -2.436 | -1.284 | inc-CAMK1G-1   | OR0448; HUMAN (060448); Neuronal thread protein AD/c-NTP, partial (9N) [HG256154]   |
| A.23.P25913    | down | -2.435 | -1.284 | DNAL1          | Homo sapiens dyx1c1, axonemal, left chain 1 (DNAL1), transcript variant 1, mRNA [NM_031427]   |
| A.33.P3279431  | down | -2.434 | -1.283 | GOSR1          | Homo sapiens golgi SNAP receptor complex member 1 (GOSR1), transcript variant 3, mRNA [NM_001007024]  |
| A.23.P134113   | down | -2.433 | -1.283 | SLC18B1        | Homo sapiens solute carrier family 18, subfamily B, member 1 (SLC18B1), mRNA [NM_025831]  |
| A.24.P088897   | down | -2.433 | -1.283 | SLC03A1        | Homo sapiens solute carrier family 18, subfamily B, member 3A1 (SLC03A1), transcript variant 1, mRNA [NM_019272]                            |
| A.23.P156881   | down | -2.433 | -1.283 | RRS17          | Homo sapiens regulator of G-protein signaling 17 (RRS17), mRNA [NM_012419]  |
| A.24.P259286   | down | -2.433 | -1.283 | PPP4R2B        | Homo sapiens phosphatase/inositol 5-phosphatase 4-kinase, type II, beta (PPP4R2B), mRNA [NM_003559]   |
| A.24.P202714   | down | -2.433 | -1.283 | inc-MTLP-2     | LINGPedia lincRNA (inc-MTLP-2), lincRNA (inc-MTLP-2-1)  |
| A.33.P3402525  | down | -2.432 | -1.282 | CGOR14         | Homo sapiens Cdc42 GTPase organizing center organizing region 14 (CGOR14), mRNA [NM_027219]   |
| A.23.P165158   | down | -2.432 | -1.282 | CCAT1          | Homo sapiens cyclin dependent kinase 2, catalytic subunit 1 (CCAT1), mRNA [NM_00103371]   |
| A.33.P294449   | down | -2.432 | -1.282 | DCAF6          | Homo sapiens DCAF1 and CUL4 associated factor 6 (DCAF6), transcript variant 2, mRNA [NM_001019177]  |
| A.19.P00316427 | down | -2.431 | -1.282 | CDKN2B-AS1     | Homo sapiens CDKN2B antisense RNA 1 (CDKN2B-AS1), transcript variant 1, long non-coding RNA [NR_047533]                                     |
| A.23.P014712   | down | -2.430 | -1.281 | GABYR          | Homo sapiens calcium binding tyrosine-V <sup>1</sup> -phosphorylation regulated (GABYR), transcript variant 1, mRNA [NM_012189]             |
| A.22.P00013829 | down | -2.429 | -1.280 | LOC101928403   | PREDICTED: Homo sapiens uncharacterized LOC101928403 (LOC101928403), ncRNA [XR_245043]  |
| A.22.P00015929 | down | -2.428 | -1.280 | HOXC-AS1       | Homo sapiens HOXC cluster antisense RNA 1 (HOXC-AS1), long non-coding RNA [NR_047504]   |
| A.24.P04419    | down | -2.428 | -1.280 | VAV2           | Homo sapiens vav 2, guanine nucleotide exchange factor (VAV2), transcript variant 2, mRNA [NM_003371]                                       |
| A.21.P0011035  | down | -2.427 | -1.279 | LOC101928054   | PREDICTED: Homo sapiens uncharacterized LOC101928054 (LOC101928054), ncRNA [XR_242910]  |
| A.23.P08685    | down | -2.427 | -1.279 | CEP290         | Homo sapiens centrosomal protein 290Da (CEP290), mRNA [NM_025114]   |
| A.33.P3404205  | down | -2.426 | -1.279 | ASGR1          | asialoglycoprotein receptor 1 [Source:HGNC Symbol;Acc:HGNC:749] [ENS:0000057399]  |
| A.33.P3434001  | down | -2.426 | -1.279 | NR6A1          | Homo sapiens nuclear receptor subfamily 6, group A, member 1 (NR6A1), transcript variant 1, mRNA [NM_033354]                                |
| A.23.P086878   | down | -2.425 | -1.278 | HOXA7          | Homo sapiens homeobox A7 (HOXA7), mRNA [NM_006186]  |
| A.33.P336846   | down | -2.424 | -1.277 | CN3S2          | Homo sapiens CN3S2 (family member 3), GNAS33, lincRNA [NM_178151]   |
| A.21.P0012875  | down | -2.423 | -1.277 | SLC12.0111885  | BROAD Institute lincRNA (SLC12.0111885), lincRNA [IGFNS:12_00222684]  |
| A.33.P3371929  | down | -2.423 | -1.277 | HOXA4          | Homo sapiens homeobox A4 (HOXA4), mRNA [NM_002141]  |
| A.23.P210629   | down | -2.423 | -1.277 | POMT2          | Homo sapiens protein-L-isoaspartate (D-aspartate) O-methyltransferase domain containing 2 (POMT2), transcript variant 1, mRNA [NM_018257]   |
| A.21.P0013706  | down | -2.422 | -1.276 | LINC01803      | long intergenic non-protein coding RNA 1503 [Source:HGNC Symbol;Acc:HGNC:81184] [ENS:0000427109]  |
| A.23.P292543   | down | -2.422 | -1.276 | SCFD2          | Homo sapiens scf1, family domain containing 2 (SCFD2), mRNA [NM_152540]   |
| A.22.P00009098 | down | -2.421 | -1.276 | UGDH-AS1       | Homo sapiens UGDH antisense RNA 1 (UGDH-AS1), long non-coding RNA [NR_047678]   |
| A.23.P24586    | down | -2.421 | -1.276 | AGCS           | Homo sapiens 1-aminocyclopropane-1-carboxylate synthase homolog (Arabidopsis)/non-functional (AGCS), transcript variant 1, mRNA [NM_035592] |
| A.23.P142447   | down | -2.419 | -1.275 | MYO1F          | Homo sapiens myosin 1F (MYO1F), mRNA [NM_012233]  |
| A.23.P171821   | down | -2.419 | -1.274 | LOC10273830    | Homo sapiens pro-B-cell leukemia homeobox 3 (PBX3), transcript variant 1, mRNA [NM_006195]  |
| A.21.P0010685  | down | -2.419 | -1.274 | LINC00339      | Homo sapiens long intergenic non-protein coding RNA 339 (LINC00339), transcript variant 3, long non-coding RNA [NR_039762]                  |
| A.23.P306381   | down | -2.418 | -1.274 | ANKG3-3B       | Homo sapiens ankyrin repeat domain 3B (ANKG3-3B), mRNA [NM_153245]  |
| A.23.P193997   | down | -2.418 | -1.274 | TRIM4          | Homo sapiens tripartite motif domain 4 (TRIM4), mRNA [NM_017534]  |
| A.33.P3402763  | down | -2.417 | -1.273 | NFK            | Homo sapiens nuclear factor-kappaB interacting with the F1A domain of Ikb63 (NFK), mRNA [NM_032800]   |
| A.21.P00043293 | down | -2.416 | -1.273 | inc-GOP2-1     | LINGPedia lincRNA (inc-GOP2-1), lincRNA (inc-GOP2-1-2)  |
| A.23.P338382   | down | -2.416 | -1.273 | SIORP3         | Homo sapiens S10P binding protein (SIORP3), transcript variant 1, mRNA [NM_022753]  |
| A.21.P0014685  | down | -2.416 | -1.273 | LOC10273830    | PREDICTED: Homo sapiens uncharacterized LOC10273830 (LOC10273830), transcript variant 2, ncRNA [XR_244088]                                  |
| A.32.P10133    | down | -2.415 | -1.272 | inc-HNSL1-2    | Homo sapiens cDNA FLJ11183, fig. clone HEMBB1001337, AK022045   |
| A.33.P2323580  | down | -2.415 | -1.272 | KIAA1217       | Homo sapiens KIAA1217 (KAA1217), transcript variant 6, mRNA [NM_001282769]  |
| A.23.P51199    | down | -2.415 | -1.272 | GOTLC1         | Homo sapiens gamma-glutamyltransferase light chain 1 (GOTLC1), transcript variant A, mRNA [NM_178311]                                       |
| A.21.P0000209  | down | -2.415 | -1.272 | SNORD4B        | Homo sapiens small nucleolar RNA, C/D box 4B (SNORD4B), small nucleolar RNA [NR_000069]   |
| A.33.P080542   | down | -2.414 | -1.272 | inc-SERPINC1-1 | LINGPedia lincRNA (inc-SERPINC1-1), lincRNA (inc-SERPINC1-19)   |
| A.23.P121837   | down | -2.413 | -1.271 | PRSS12         | Homo sapiens protease serpin 12 (neutrypsin, metaglin) (PRSS12), mRNA [NM_003619]   |
| A.33.P325195   | down | -2.412 | -1.270 | IGSF9B         | Homo sapiens mRNA for KIAA030 protein, partial cdt. [AB028959]  |
| A.23.P174883   | down | -2.411 | -1.270 | C1orf24        | Homo sapiens chromosome 1 open reading frame 24 (C1orf24), mRNA [NM_0124252]  |
| A.24.P32228    | down | -2.411 | -1.270 | GRHL2          | Homo sapiens granzyme-like 2 (Granzyme2), transcript variant 2, mRNA [NM_024919]  |
| A.23.P165672   | down | -2.410 | -1.269 | KIAA1242L      | Homo sapiens KIAA1242-like (KIAA1242L), transcript variant 2, mRNA [NM_157148]  |
| A.23.P168493   | down | -2.409 | -1.268 | FOXP1          | Homo sapiens forkhead box P1 (FOXP1), mRNA [NM_033933]  |
| A.22.P0002968  | down | -2.407 | -1.267 | inc-RAB1A-13   | LINGPedia lincRNA (inc-RAB1A-13), lincRNA (inc-RAB1A-13)  |
| A.21.P0012839  | down | -2.407 | -1.267 | LOC12.0111882  | BROAD Institute lincRNA (LOC12.0111882), lincRNA [IGFNS:12_00222490]  |
| A.24.P191417   | down | -2.406 | -1.267 | NAE1           | Homo sapiens NAE1-A binding protein 1 (EGRI binding protein 1) (NAE1), mRNA [NM_005698]   |
| A.23.P40315    | down | -2.406 | -1.267 | DZANK1         | Homo sapiens double zinc ribbon and ankyrin repeat domains 1 (DZANK1), mRNA [NM_00109407]   |
| A.24.P308507   | down | -2.406 | -1.267 | EFNB1          | Homo sapiens ephrin-B1 (EFNB1), mRNA [NM_004429]  |
| A.33.P304213   | down | -2.405 | -1.266 | GRIN3B         | Homo sapiens glutamate receptor, ionotropic, N-methyl-D-aspartate 3B (GRIN3B), mRNA [NM_138690]   |
| A.33.P363165   | down | -2.404 | -1.266 | SSH2           | Homo sapiens shaglike protein phosphatase 2 (SSH2), transcript variant 1, mRNA [NM_001282123]   |
| A.32.P230825   | down | -2.404 | -1.265 | AK4            | Homo sapiens adenylate kinase 4 (AK4), transcript variant 1, mRNA [NM_001005933]  |
| A.32.P106855   | down | -2.404 | -1.265 | AK4            | Homo sapiens adenylate kinase 4 (AK4), transcript variant 1, mRNA [NM_001005933]  |
| A.33.P3217700  | down | -2.404 | -1.265 | ZNF815         | Homo sapiens zinc finger protein 815 (ZNF815), transcript variant 1, mRNA [NM_001199324]  |
| A.33.P327981   | down | -2.404 | -1.265 | ZNF815         | Homo sapiens zinc finger protein 815 (ZNF815), transcript variant 1, mRNA [NM_001199324]  |
| A.22.P00005196 | down | -2.403 | -1.265 | PLEKHA5        | Homo sapiens pleckstrin homology domain containing, family A member 5 (PLEKHA5), transcript variant 4, mRNA [NM_00198660]                   |
| A.33.P3428772  | down | -2.402 | -1.264 | SRFBP3         | Homo sapiens serine ribonucleoprotein binding factor 3 (SRFBP3), transcript variant 1, mRNA [NM_032102]                                     |
| A.23.P17635    | down | -2.402 | -1.264 | ETV6           | Homo sapiens ets transcription factor 6 (ETV6), mRNA [NM_001887]  |
| A.33.P3210343  | down | -2.401 | -1.264 | LINC01834      | Homo sapiens long intergenic non-protein coding RNA 1834 (LINC01834), transcript variant 2, long non-coding RNA [NR_110798]                 |
| A.21.P0011780  | down | -2.399 | -1.263 | LINC01834      | Homo sapiens long intergenic non-protein coding RNA 1834 (LINC01834), transcript variant 2, long non-coding RNA [NR_110798]                 |
| A.21.P0014907  | down | -2.398 | -1.262 | BTFL3L4        | Homo sapiens basic transcription factor 3-like 4 (BTFL3L4), transcript variant 1, mRNA [NM_192265]  |
| A.33.P3361616  | down | -2.395 | -1.260 | BTFL3L4        | Homo sapiens basic transcription factor 3-like 4 (BTFL3L4), transcript variant 1, mRNA [NM_192265]  |
| A.24.P165656   | down | -2.395 | -1.260 | PRKQ3          | Homo sapiens protein kinase D3 (PRKQ3), mRNA [NM_003613]  |

|                |        |        |       |   |   |
|----------------|--------|--------|-------|---|---|
| A.21.P0014014  | -2.394 | -1.260 | 2.394 | ALOX15P1  | Homo sapiens arachidonate 15-lipoxygenase pseudogene 1 (ALOX15P1), non-coding RNA [NR_045888]   |
| A.32.P120895   | -2.394 | -1.259 | 2.394 | L15MD2  | Homo sapiens LysM, putative peptidoglycan-binding, domain containing 2 (L15MD2), transcript variant 1, mRNA [NM_153274]                                   |
| A.21.P0007430  | -2.393 | -1.259 | 2.393 | LOC1494141  | Homo sapiens eDNA clone IMAGE4152388, partial cds. [BC013074]   |
| A.23.P0441     | -2.392 | -1.258 | 2.392 | ABGB6   | Homo sapiens ATP-binding cassette, sub-family B (MDR/TAP), member 6 (Langeris blood group) (ABGB6), mRNA [NM_005689]                                      |
| A.33.P0421026  | -2.392 | -1.258 | 2.392 | KIAA1147  | Homo sapiens KIAA1147 (KIAA1147), mRNA [NM_001083392]   |
| A.23.P152348   | -2.392 | -1.258 | 2.392 | SGPEP1  | Homo sapiens serine carboxypeptidase 1 (SGPEP1), mRNA [NM_021926]   |
| A.24.P173838   | -2.391 | -1.258 | 2.391 | RSFD1L  | Homo sapiens ribosomal L1 domain containing 1 (RSFD1L), mRNA [NM_011656]  |
| A.23.P121116   | -2.391 | -1.258 | 2.391 | LOC102286   | Homo sapiens uncharacterized LOC102286 (LOC102286), long non-coding RNA [NR_049243]   |
| A.23.P143106   | -2.391 | -1.258 | 2.391 | LOC102286   | Homo sapiens uncharacterized LOC102286 (LOC102286), long non-coding RNA [NR_049243]   |
| A.23.P163987   | -2.390 | -1.257 | 2.390 | AD2   | Homo sapiens adenylyl transferase 2 (AD2), mRNA [NM_021210]   |
| A.23.P1021042  | -2.390 | -1.257 | 2.390 | AD2   | Homo sapiens adenylyl transferase 2 (AD2), mRNA [NM_021210]   |
| A.23.P255765   | -2.389 | -1.256 | 2.389 | AD2   | Homo sapiens adenylyl transferase 2 (AD2), mRNA [NM_021210]   |
| A.23.P2211106  | -2.388 | -1.256 | 2.388 | SEED4   | Homo sapiens NCK adaptor protein 1 (NCK1), transcript variant 1, mRNA [NM_008163]   |
| A.22.P0002513  | -2.388 | -1.256 | 2.388 | inc-TOR1C1-1  | PREDICTED: Homo sapiens T-cell immune regulator 1, A1Phase, H+ transporting, lysosomal V0 subunit A3 (TOR1C1), transcript variant X3, mRNA [XM_006718417] |
| A.33.P0249489  | -2.388 | -1.256 | 2.388 | MDR8B   | Homo sapiens MDR repeat domain 8B (MDR8B), transcript variant 3, mRNA [NM_001286722]  |
| A.33.P038171   | -2.388 | -1.256 | 2.388 | ZDHHC8  | Homo sapiens zinc finger, DHHC-type containing 8 (ZDHHC8), transcript variant 2, mRNA [NM_0183732]  |
| A.33.P030731   | -2.387 | -1.255 | 2.387 | MINL  | Homo sapiens minner-like (MINL), mRNA [NM_025176]   |
| A.23.P19712    | -2.386 | -1.255 | 2.386 | GMNN  | Homo sapiens gamma-DNA replication inhibitor (GMNN), transcript variant 1, mRNA [NM_015985]   |
| A.33.P036500   | -2.386 | -1.254 | 2.386 | IFT59   | Intraflagellar transport 52 (Source:HGNC Symbol;Acc:HGNC:1590) [ENST00000471199]  |
| A.23.P10231    | -2.386 | -1.254 | 2.386 | ALDH7A1   | Homo sapiens aldehyde dehydrogenase 7 family, member A1 (ALDH7A1), transcript variant 1, mRNA [NM_001182]   |
| A.33.P0210297  | -2.385 | -1.254 | 2.385 | NR3C1   | Homo sapiens nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor) (NR3C1), transcript variant 15, mRNA [NM_001432222]                |
| A.22.P00010283 | -2.385 | -1.254 | 2.385 | inc-MITFAP-1  | Homo sapiens GATA4-AS2, antisense RNA [LOC102729215, AK138310]  |
| A.33.P036989   | -2.384 | -1.254 | 2.384 | DNAJ21  | Homo sapiens DNAJ (Hsp40) homolog, subfamily C, member 21 (DNAJ21), transcript variant 1, mRNA [NM_149293]  |
| A.33.P0333885  | -2.384 | -1.253 | 2.384 | ZNF337  | Homo sapiens zinc finger protein, 337 (ZNF337), transcript variant 1, mRNA [NM_001280281]   |
| A.33.P025714   | -2.384 | -1.253 | 2.384 | RPS32   | Homo sapiens ribosomal protein S23 (RPS32), mRNA [NM_001025]  |
| A.32.P212373   | -2.384 | -1.253 | 2.384 | inc-EGLN1-1   | LINCpeda lincRNA (inc-EGLN1-1), lincRNA [inc-EGLN1-1]   |
| A.22.P00007020 | -2.383 | -1.253 | 2.383 | ZNF337-AS1  | Homo sapiens ZNF337 antisense RNA 1 (ZNF337-AS1), transcript variant 1, long non-coding RNA [NR_128465]   |
| A.23.P242722   | -2.382 | -1.252 | 2.382 | SFPL3   | Homo sapiens signal peptide peptidase like 3 (SFPL3), mRNA [NM_139015]  |
| A.23.P00019478 | -2.382 | -1.252 | 2.382 | HOXG13-AS   | Homo sapiens HOXG13 antisense RNA (HOXG13-AS), long non-coding RNA [NR_047507]  |
| A.23.P008305   | -2.382 | -1.252 | 2.382 | TTC9C   | Homo sapiens tetranucleotide repeat domain 9C (TTC9C), transcript variant 3, mRNA [NM_001244245]  |
| A.33.P036741   | -2.381 | -1.252 | 2.381 | MR22  | Homo sapiens mannose receptor, C type 2 (MR22), mRNA [NM_008039]  |
| A.33.P032538   | -2.380 | -1.251 | 2.380 | JRKL  | Homo sapiens JRC-like CRKL, transcript variant 1, mRNA [NM_003772]  |
| A.33.P024083   | -2.379 | -1.251 | 2.379 | MOE3B   | Homo sapiens MOB kinase activator 3B (MOE3B), mRNA [NM_024761]  |
| A.23.P16189    | -2.379 | -1.250 | 2.379 | MKL2  | Homo sapiens mitogen-activated protein kinase 2 (MKL2), mRNA [NM_014048]  |
| A.23.P009881   | -2.378 | -1.250 | 2.378 | ITH4  | Homo sapiens inter-alpha-trypsin inhibitor heavy chain family, member 4 (ITH4), transcript variant 1, mRNA [NM_002116]                                    |
| A.23.P146077   | -2.378 | -1.250 | 2.378 | ZNF393  | Homo sapiens zinc finger protein, 393 (ZNF393), mRNA [NM_018660]  |
| A.33.P0247988  | -2.375 | -1.248 | 2.375 | PCSK4   | Homo sapiens proprotein convertase subtilisin/kexin type 4 (PCSK4), mRNA [NM_017573]  |
| A.33.P0343182  | -2.373 | -1.247 | 2.373 | IQCA1   | Homo sapiens IQ motif containing with AAA domain 1 (IQCA1), transcript variant 1, mRNA [NM_024726]  |
| A.23.P121055   | -2.373 | -1.246 | 2.373 | SORCS2  | Homo sapiens sortilin-related VPSID domain containing receptor 2 (SORCS2), mRNA [NM_020777]   |
| A.33.P042269   | -2.372 | -1.246 | 2.372 | FANCL   | Homo sapiens Fanconi anemia, complementation group L (FANCL), transcript variant 1, mRNA [NM_001144636]   |
| A.22.P00009237 | -2.371 | -1.246 | 2.371 | SLGA2   | Homo sapiens sialic acid carrier family 6 (neurotransmitter transporter), member 2 (SLGA2), transcript variant 2, mRNA [NM_00172501]                      |
| A.23.P03287    | -2.370 | -1.245 | 2.370 | NOTCH1  | Homo sapiens notch 1 (NOTCH1), mRNA [NM_017817]   |
| A.22.P00008316 | -2.369 | -1.244 | 2.369 | LOC10607205   | Homo sapiens uncharacterized LOC10607205 (LOC10607205), long non-coding RNA [NR_038509]   |
| A.23.P124427   | -2.367 | -1.243 | 2.367 | NEK1  | Homo sapiens NEK1-related kinase 1 (NEK1), transcript variant 2, mRNA [NM_012224]   |
| A.22.P00011411 | -2.367 | -1.243 | 2.367 | USP27X-AS1  | Homo sapiens USP27X antisense RNA 1 (head to head) (USP27X-AS1), long non-coding RNA [NR_028742]  |
| A.23.P048936   | -2.366 | -1.243 | 2.366 | SMAD3   | Homo sapiens SMAD family member 3 (SMAD3), transcript variant 1, mRNA [NM_005902]   |
| A.24.P166576   | -2.365 | -1.242 | 2.365 | GEMIN8  | Homo sapiens gem (nuclear envelope) associated protein 8 (GEMIN8), transcript variant 3, mRNA [NM_017856]   |
| A.22.P00014796 | -2.364 | -1.241 | 2.364 | LINC00673   | Homo sapiens long intergenic non-protein coding RNA 673 (LINC00673), long non-coding RNA [NR_038488]  |
| A.22.P00014225 | -2.364 | -1.241 | 2.364 | growth arrest-specific 5 (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:16355] | growth arrest-specific 5 (non-protein coding) [Source:HGNC Symbol;Acc:HGNC:16355]   |
| A.24.P416257   | -2.363 | -1.240 | 2.363 | GGA2  | Homo sapiens golgi-associated, gamma adaptin ear containing, ARF binding protein 2 (GGA2), mRNA [ENST00000425711]   |
| A.23.P161988   | -2.362 | -1.240 | 2.362 | N6AMT2  | Homo sapiens N-6 adenosine-specific DNA methyltransferase 2 (putative) (N6AMT2), mRNA [NM_174928]   |
| A.21.P0014218  | -2.361 | -1.240 | 2.361 | LOC101927087  | Homo sapiens uncharacterized LOC101927087 (LOC101927087), long non-coding RNA [NR_125410]   |
| A.24.P0336137  | -2.361 | -1.239 | 2.361 | G22orf23  | Homo sapiens chromosome 22 open reading frame 23 (G22orf23), transcript variant 1, mRNA [NM_026551]   |
| A.33.P0327140  | -2.360 | -1.239 | 2.360 | LOC101  | Homo sapiens leucine zipper, domain 1 (LZP1), mRNA [NM_022977]  |
| A.23.P030716   | -2.359 | -1.238 | 2.359 | CEP110  | Homo sapiens centrosomal protein 110kDa (CEP110), transcript variant 3, mRNA [NM_001169165]   |
| A.24.P00504    | -2.358 | -1.238 | 2.358 | SLC48A1   | Homo sapiens solute carrier family 48 (solute carrier) member 1 (SLC48A1), mRNA [NM_017042]   |
| A.23.P164938   | -2.358 | -1.238 | 2.358 | HIRA  | Homo sapiens histone, cell cycle regulator (HIRA), mRNA [NM_008332]   |
| A.33.P0251771  | -2.357 | -1.237 | 2.357 | CYLD  | Homo sapiens cylindromatosis (turban tumor syndrome) (CYLD), transcript variant 1, mRNA [NM_015947]   |
| A.23.P124122   | -2.357 | -1.237 | 2.357 | PXMP2   | Homo sapiens peroxisomal membrane protein 2, 22kDa (PXMP2), mRNA [NM_011886]  |
| A.23.P14708    | -2.356 | -1.236 | 2.356 | ZNF280D   | Homo sapiens zinc finger protein, 280D (ZNF280D), transcript variant 1, mRNA [NM_017861]  |

|                |  |  |  |  |  |  |  |  |                |      |        |        |       |       |  |
|----------------|--|--|--|--|--|--|--|--|----------------|------|--------|--------|-------|-------|--|
| A.33.P3260963  |  |  |  |  |  |  |  |  | HCG16          | down | -1.236 | -2.356 | 2.356 | 2.356 | Homo sapiens HLA complex group 18 (non-protein coding) (HCG18), transcript variant 3, long non-coding RNA [NR_102328]                  |
| A.23.P160587   |  |  |  |  |  |  |  |  | ZNFND12        | down | -1.236 | -2.355 | 2.355 | 2.355 | Homo sapiens zinc finger, MYND-type containing 12 (ZNFND12), transcript variant 1, mRNA [NM_032257]                                    |
| A.33.P3265902  |  |  |  |  |  |  |  |  |                | down | -1.236 | -2.355 | 2.355 | 2.355 | high mobility group nucleosomal binding domain 2 pseudogene 28 [Source:HONC Symbol:AcHGNC:38959] [ENST00000606102]                     |
| A.33.P3263033  |  |  |  |  |  |  |  |  | PYGO1          | down | -1.235 | -2.354 | 2.354 | 2.354 | Symbol:AcHGNC:38959 [ENST00000606102]  |
| A.33.P3262930  |  |  |  |  |  |  |  |  | SRSF9          | down | -1.235 | -2.354 | 2.354 | 2.354 | Homo sapiens serine/arginine-rich splicing factor 9 (SRSF9), transcript variant 1, mRNA [NM_008275]                                    |
| A.33.P3307593  |  |  |  |  |  |  |  |  | LOC288437      | down | -1.234 | -2.353 | 2.353 | 2.353 | Homo sapiens uncharacterized LOC288437 (LOC288437), long non-coding RNA [NR_039980]  |
| A.21.P0006247  |  |  |  |  |  |  |  |  | LOC288437      | down | -1.234 | -2.352 | 2.352 | 2.352 | LOC288437 (LOC288437), long non-coding RNA [NR_039980]   |
| A.24.P182727   |  |  |  |  |  |  |  |  | KAZALD1        | down | -1.234 | -2.352 | 2.352 | 2.352 | KL-type 1 peptidase inhibitor domain 1 [Source:HONC Symbol:AcHGNC:24460] [ENST00000261967]   |
| A.24.P106112   |  |  |  |  |  |  |  |  | PKO2           | down | -1.233 | -2.351 | 2.351 | 2.351 | Homo sapiens protein kinase 2 (substructural domain) (PKO2), mRNA [NM_008297]  |
| A.23.P23895    |  |  |  |  |  |  |  |  | POLR3GL        | down | -1.233 | -2.350 | 2.350 | 2.350 | Homo sapiens polymerase (RNA) III (DNA directed) polypeptide G (23AD)-like (POLR3GL), mRNA [NM_022035]                                 |
| A.23.P297620   |  |  |  |  |  |  |  |  | GNRHR2         | down | -1.232 | -2.350 | 2.350 | 2.350 | Homo sapiens gonadotropin-releasing hormone (type 2) receptor 2, pseudogene (GHRHR2), transcript variant 1, non-coding RNA [NR_022228] |
| A.24.P174013   |  |  |  |  |  |  |  |  | F6AW7          | down | -1.232 | -2.349 | 2.349 | 2.349 | Homo sapiens F-box and WD repeat domain containing 7, E3 ubiquitin protein ligase (FBXW7), transcript variant 1, mRNA [NM_033832]      |
| A.33.P3334443  |  |  |  |  |  |  |  |  | FAM68A         | down | -1.232 | -2.348 | 2.348 | 2.348 | Homo sapiens family with sequence similarity 69, member A (FAM68A), transcript variant 4, mRNA [NM_001252271]                          |
| A.24.PR8311    |  |  |  |  |  |  |  |  | SYAE2          | down | -1.231 | -2.347 | 2.347 | 2.347 | Homo sapiens spectrin repeat containing nuclear envelope 2 (SYNE2), transcript variant 1, mRNA [NM_019180]                             |
| A.19.P00809029 |  |  |  |  |  |  |  |  | GGACT          | down | -1.231 | -2.347 | 2.347 | 2.347 | Homo sapiens gamma-glutamylamine cyclotransferase (GGACT), transcript variant 2, mRNA [NM_00199087]                                    |
| A.33.P323876   |  |  |  |  |  |  |  |  | TRMT5          | down | -1.231 | -2.347 | 2.347 | 2.347 | Homo sapiens RNA methyltransferase 5 (TRMT5), mRNA [NM_028103]   |
| A.33.P322757   |  |  |  |  |  |  |  |  | ZNF314         | down | -1.230 | -2.346 | 2.346 | 2.346 | Homo sapiens zinc finger protein B14 (ZNF314), mRNA [NM_001146959]   |
| A.24.P32827    |  |  |  |  |  |  |  |  | LINC01183      | down | -1.230 | -2.346 | 2.346 | 2.346 | Homo sapiens long intergenic non-protein coding RNA 1183 [Source:HONC Symbol:AcHGNC:49566] [ENST00000261967]                           |
| A.23.PR1650    |  |  |  |  |  |  |  |  | G5orf15        | down | -1.230 | -2.345 | 2.345 | 2.345 | Homo sapiens chromosome 5 open reading frame 15 (G5orf15), mRNA [NM_020109]  |
| A.21.P0000957  |  |  |  |  |  |  |  |  | LINC00882      | down | -1.229 | -2.344 | 2.344 | 2.344 | Homo sapiens long intergenic non-protein coding RNA 882 (LINC00882), long non-coding RNA [NR_028303]                                   |
| A.23.P120831   |  |  |  |  |  |  |  |  | AP0BEC3C       | down | -1.228 | -2.343 | 2.343 | 2.343 | Homo sapiens apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3C (APOBEC3C), mRNA [NM_014508]                          |
| A.32.P415151   |  |  |  |  |  |  |  |  | MDR27          | down | -1.228 | -2.342 | 2.342 | 2.342 | Homo sapiens MD repeat domain 27 (MDR27), transcript variant 1, mRNA [NM_182552]   |
| A.21.P0014623  |  |  |  |  |  |  |  |  | SNHG21         | down | -1.228 | -2.342 | 2.342 | 2.342 | Homo sapiens small nuclear RNA host gene 21 (non-protein coding) (SNHG21), transcript variant 1, long non-coding RNA [NR_110096]       |
| A.24.P135748   |  |  |  |  |  |  |  |  | GRTF1          | down | -1.228 | -2.342 | 2.342 | 2.342 | Homo sapiens growth hormone regulated TBC protein 1 (GRTF1), transcript variant 1, mRNA [NM_024719]                                    |
| A.33.P3387855  |  |  |  |  |  |  |  |  | PK3R2          | down | -1.227 | -2.341 | 2.341 | 2.341 | Homo sapiens phosphoinositide-3-kinase, regulatory subunit 2 (beta) (PK3R2), transcript variant 1, mRNA [NM_005027]                    |
| A.33.P323876   |  |  |  |  |  |  |  |  | G5orf152       | down | -1.227 | -2.341 | 2.341 | 2.341 | Homo sapiens chromosome 5 open reading frame 152 (G5orf152), mRNA [NM_001029393]   |
| A.33.P339758   |  |  |  |  |  |  |  |  | G1orf28        | down | -1.227 | -2.340 | 2.340 | 2.340 | Homo sapiens chromosome 14 open reading frame 28 (G1orf28), mRNA [NM_001071933]  |
| A.24.P322230   |  |  |  |  |  |  |  |  | CH39           | down | -1.227 | -2.340 | 2.340 | 2.340 | Homo sapiens chromosome14 helicase DNA binding protein 3 (CH39), mRNA [NM_023134]  |
| A.33.P323292   |  |  |  |  |  |  |  |  | LINC0038B      | down | -1.227 | -2.340 | 2.340 | 2.340 | Homo sapiens transcriptome browser 38B (LINC0038B), long non-coding RNA [NR_1019533]   |
| A.21.P0013864  |  |  |  |  |  |  |  |  | RAC1           | down | -1.227 | -2.340 | 2.340 | 2.340 | Homo sapiens ras-related GTPase 1 (RAC1), transcript variant 1, mRNA [NM_001005363]  |
| A.24.P400507   |  |  |  |  |  |  |  |  | EOGT           | down | -1.226 | -2.340 | 2.340 | 2.340 | Homo sapiens EGF domain-specific O-linked N-acetylglucosamine (GlcNAc) transferase (EOGT), transcript variant 2, mRNA [NM_123854]      |
| A.33.P3301394  |  |  |  |  |  |  |  |  |                | down | -1.226 | -2.339 | 2.339 | 2.339 | high mobility group nucleosomal binding domain 2 pseudogene 25 [Source:HONC Symbol:AcHGNC:38952] [ENST00000486856]                     |
| A.23.P501010   |  |  |  |  |  |  |  |  | COL17A1        | down | -1.225 | -2.337 | 2.337 | 2.337 | Symbol:AcHGNC:38952 [ENST00000486856]  |
| A.23.P181368   |  |  |  |  |  |  |  |  | FANCL          | down | -1.225 | -2.337 | 2.337 | 2.337 | Homo sapiens Fanconi anemia, complementation group L (FANCL), transcript variant 2, mRNA [NM_018092]                                   |
| A.33.P344483   |  |  |  |  |  |  |  |  | INPPI          | down | -1.225 | -2.337 | 2.337 | 2.337 | Homo sapiens inositol polyphosphate-1-phosphatase (INPPI), transcript variant 2, mRNA [NM_002194]                                      |
| A.33.P3375466  |  |  |  |  |  |  |  |  |                | down | -1.224 | -2.336 | 2.336 | 2.336 | Homo sapiens long intergenic non-protein coding RNA 1535 (LINC01535), transcript variant 3, long non-coding RNA [NR_107070]            |
| A.21.P0011684  |  |  |  |  |  |  |  |  | LINC01335      | down | -1.224 | -2.336 | 2.336 | 2.336 | Homo sapiens long intergenic non-protein coding RNA 1535 (LINC01535), transcript variant 3, long non-coding RNA [NR_107070]            |
| A.33.P3232687  |  |  |  |  |  |  |  |  | OXG1T          | down | -1.223 | -2.335 | 2.335 | 2.335 | Homo sapiens 3'-oxoacid CoA transferase 1 (OXG1T), mRNA [NM_005436]  |
| A.33.P338785   |  |  |  |  |  |  |  |  | GP72           | down | -1.223 | -2.335 | 2.335 | 2.335 | Homo sapiens carnitine palmitoyltransferase 2 (GP72), mRNA [NM_000698]   |
| A.23.P148519   |  |  |  |  |  |  |  |  | LOC318641      | down | -1.223 | -2.335 | 2.335 | 2.335 | Homo sapiens zinc finger protein 182 (ZNF182), mRNA [NM_014549]  |
| A.33.P3441695  |  |  |  |  |  |  |  |  | LOC318641      | down | -1.222 | -2.333 | 2.333 | 2.333 | Homo sapiens zinc finger protein 182 (ZNF182), mRNA [NM_014549]  |
| A.22.P0003354  |  |  |  |  |  |  |  |  | LOC318641      | down | -1.222 | -2.333 | 2.333 | 2.333 | Homo sapiens zinc finger protein 182 (ZNF182), mRNA [NM_014549]  |
| A.23.P301247   |  |  |  |  |  |  |  |  | HIST2H2AG      | down | -1.222 | -2.333 | 2.333 | 2.333 | LINC01183 (LINC01183), long non-coding RNA [NR_101953]   |
| A.33.P3270109  |  |  |  |  |  |  |  |  | LEO1           | down | -1.222 | -2.333 | 2.333 | 2.333 | Homo sapiens Leu1_P47 RNA polymerase II complex component, homolog (S. cerevisiae) (LEO1), transcript variant 2, mRNA [NM_00128430]    |
| A.33.P3338413  |  |  |  |  |  |  |  |  | LAMB4          | down | -1.222 | -2.332 | 2.332 | 2.332 | Symbol:AcHGNC:38952 [ENST00000486856]  |
| A.33.P3457052  |  |  |  |  |  |  |  |  | inc-KAAN191B-1 | down | -1.222 | -2.332 | 2.332 | 2.332 | Homo sapiens laminin beta 4 (LAMB4), mRNA [NM_007356]  |
| A.22.P00014191 |  |  |  |  |  |  |  |  | inc-SDR4E1-1   | down | -1.222 | -2.332 | 2.332 | 2.332 | Homo sapiens dRNA FLJ21659 fig. clone COL08743, [AK029312]   |
| A.32.P149251   |  |  |  |  |  |  |  |  | DNAJG18        | down | -1.222 | -2.332 | 2.332 | 2.332 | QSOX4/HUMAN (QSOX4) Hydroxysteroid (17-beta) dehydrogenase 2, variant (Fragment), partial (18), [TH0274742]                            |
| A.23.P101748   |  |  |  |  |  |  |  |  | NNT            | down | -1.222 | -2.332 | 2.332 | 2.332 | Homo sapiens DnaJ (Hsp40) homolog, subfamily C, member 18 (DNAJG18), mRNA [NM_152896]  |
| A.21.P0014775  |  |  |  |  |  |  |  |  | LOC100563302   | down | -1.220 | -2.329 | 2.329 | 2.329 | Homo sapiens nicotinamide nucleotide transhydrogenase (NNT), transcript variant 2, mRNA [NM_189777]                                    |
| A.23.P151653   |  |  |  |  |  |  |  |  | APEX1          | down | -1.219 | -2.329 | 2.329 | 2.329 | Homo sapiens uncharacterized LOC100563302 (LOC100563302), long non-coding RNA [NR_126441]  |
| A.23.P296832   |  |  |  |  |  |  |  |  | ZNF302         | down | -1.219 | -2.329 | 2.329 | 2.329 | Homo sapiens APEX nuclease (multifunctional DNA repair enzyme) 1 (APEX1), transcript variant 3, mRNA [NM_008049]                       |
| A.23.P78410    |  |  |  |  |  |  |  |  | TIMM21         | down | -1.219 | -2.328 | 2.328 | 2.328 | Homo sapiens zinc finger protein 302 (ZNF302), transcript variant 1, mRNA [NM_019445]  |
| A.23.P14975    |  |  |  |  |  |  |  |  | ENK1           | down | -1.219 | -2.328 | 2.328 | 2.328 | Homo sapiens translocator of inner mitochondrial membrane 21 homolog (yeast) (TIMM21), mRNA [NM_014171]                                |
| A.23.P160481   |  |  |  |  |  |  |  |  | DCAF1          | down | -1.219 | -2.328 | 2.328 | 2.328 | Homo sapiens nuclear pore complex domain containing 1 (ENK1), mRNA [NM_032140]   |
| A.23.P347161   |  |  |  |  |  |  |  |  | TJAP1          | down | -1.219 | -2.328 | 2.328 | 2.328 | Homo sapiens DDB1 and CUL4 associated factor 6 (DCAF6), transcript variant 1, mRNA [NM_018442]   |
| A.33.P3347161  |  |  |  |  |  |  |  |  | TBL1X          | down | -1.219 | -2.327 | 2.327 | 2.327 | Homo sapiens tight junction associated protein 1 (periplasm) (TJAP1), transcript variant 4, mRNA [NM_008604]                           |
| A.21.P0007030  |  |  |  |  |  |  |  |  | inc-UROS-1     | down | -1.219 | -2.327 | 2.327 | 2.327 | Homo sapiens transactivator (beta)-like IX-linked (TBLIX), transcript variant 1, mRNA [NM_005647]                                      |
|                |  |  |  |  |  |  |  |  | inc-UROS-1     | down | -1.219 | -2.327 | 2.327 | 2.327 | LINC01183 (LINC01183), long non-coding RNA [NR_101953]   |

|                |        |       |        |      |              |   |
|----------------|--------|-------|--------|------|--------------|---|
| A.23.P164235   | -2.327 | 2.327 | -1.218 | down | NMI          | Homo sapiens N-myc (and STAT) interactor (NMI), mRNA [NM_004688]  |
| A.24.P281052   | -2.326 | 2.326 | -1.218 | down | MTMR9        | Homo sapiens myotubularin-related protein 9 (MTMR9), mRNA [NM_015458]   |
| A.23.P22322    | -2.326 | 2.326 | -1.218 | down | FERM3        | FERM domain containing 4A [Source:HGNC Symbol;Acc:HGNC:2549] [ENST00000242409]  |
| A.33.P3315554  | -2.323 | 2.323 | -1.216 | down | ANKMY1       | Homo sapiens ankyrin repeat and MYND domain containing 1 (ANKMY1), transcript variant 3, mRNA [NM_001297771]  |
| A.23.P292520   | -2.323 | 2.323 | -1.216 | down | ABLMT1       | Homo sapiens actin binding (LM protein) 1 (ABLMT1), transcript variant 3, mRNA [NM_001003409]   |
| A.23.P193526   | -2.323 | 2.323 | -1.216 | down | POLES        | Homo sapiens polyomase (DNA directed) epsilon 3, accessory subunit (POLES), transcript variant 1, mRNA [NM_0117443]   |
| A.23.P144264   | -2.323 | 2.323 | -1.216 | down | TOAM70A      | Homo sapiens translocase of outer mitochondrial membrane 70 homolog A (S. cerevisiae) (TOAM70A), mRNA [NM_014820]   |
| A.23.P30036205 | -2.323 | 2.323 | -1.216 | down | DNAI27-AS1   | Homo sapiens DNAI27 antisense RNA 1 (DNAI27-AS1), long non-coding RNA [NR_034133]   |
| A.33.P3406458  | -2.322 | 2.322 | -1.215 | down | NANP         | Homo sapiens nucleophosmin 1 (NANP), mRNA [NM_126563]   |
| A.33.P295287   | -2.321 | 2.321 | -1.215 | down | PTARR1       | PHRED/ICED homologous protein 1 (PTARR1), transcript variant 1, mRNA [NM_005251676]   |
| A.22.P0023707  | -2.320 | 2.320 | -1.214 | down | PITPNA       | Homo sapiens phosphatidylinositol transfer protein, alpha (PITPNA), mRNA [NM_006224]  |
| A.24.P442354   | -2.320 | 2.320 | -1.214 | down | BBS9         | Homo sapiens Bardet-Biedl syndrome 9 (BBS9), transcript variant 2, mRNA [NM_198428]   |
| A.23.P28231    | -2.320 | 2.320 | -1.214 | down | LOGO10274344 | Homo sapiens Band4-Beal syndrome 9 (BBS9), transcript variant 2, mRNA [NM_198428]   |
| A.21.P0008989  | -2.320 | 2.320 | -1.214 | down | CEP41        | Homo sapiens centrosomal protein 41kDa (CEP41), transcript variant 1, mRNA [NM_018718]  |
| A.21.P0012979  | -2.319 | 2.319 | -1.214 | down | LINC00926    | Homo sapiens long intergenic non-protein coding RNA 526 (LINC00926), long non-coding RNA [NR_026848]  |
| A.23.P377865   | -2.318 | 2.318 | -1.213 | down | FRS2         | Homo sapiens fibroblast growth factor receptor substrate 2 (FRS2), transcript variant 3, mRNA [NM_001278351]  |
| A.33.P3384112  | -2.318 | 2.318 | -1.213 | down | ZNF326       | Homo sapiens zinc finger protein 326 (ZNF326), transcript variant 3, mRNA [NM_182975]   |
| A.24.P48437    | -2.318 | 2.318 | -1.213 | down | inc-ZBTB25-2 | ALU1_HUMAN (P9188) Alu subfamily J sequence contamination warning entry, partial (9%) [NC_283920]   |
| A.22.P00017806 | -2.318 | 2.318 | -1.213 | down | DNRS1        | Homo sapiens protein-tyrosine kinase receptor-associated tyrosine kinase 1 (DNRS1), mRNA [NM_008813]  |
| A.23.P145274   | -2.318 | 2.318 | -1.213 | down | EVA1A        | Homo sapiens zinc finger protein 100 (EVA1A), transcript variant 1, mRNA [NM_001316322]   |
| A.33.P282825   | -2.318 | 2.318 | -1.213 | down | ZBTB90       | Homo sapiens zinc finger and BTB domain containing 20 (ZBTB90), transcript variant 2, mRNA [NM_019642]  |
| A.23.P40866    | -2.317 | 2.317 | -1.212 | down | GAS5         | zinc finger protein 846 [Source:HGNC Symbol;Acc:HGNC:27260] [ENST00000680398]   |
| A.21.P0011721  | -2.316 | 2.316 | -1.212 | down | TMED3-TICAM2 | Homo sapiens growth arrest-specific 5 (non-protein coding) (GAS5), long non-coding RNA [NR_002578]  |
| A.32.P230828   | -2.314 | 2.314 | -1.211 | down | PLEKH44      | Homo sapiens TMED3-TICAM2 readthrough (TMED3-TICAM2), transcript variant 2, mRNA [NM_001164489]   |
| A.33.P3327270  | -2.314 | 2.314 | -1.210 | down | MAPKAP1      | Homo sapiens pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 4 (PLEKH44), transcript variant 1, mRNA [NM_020904] |
| A.24.P406947   | -2.314 | 2.314 | -1.210 | down | ANKRD50      | Homo sapiens eDNA FLJ33091, clone BNGH41000017, AK084853  |
| A.33.P3823118  | -2.312 | 2.312 | -1.209 | down | INA          | Homo sapiens ankyrin repeat domain 50 (ANKRD50), transcript variant 2, mRNA [NM_001167882]  |
| A.33.P323140   | -2.312 | 2.312 | -1.209 | down | QTRT1        | Homo sapiens intertein neuronal intermediate filament protein, alpha (INA), mRNA [NM_022727]  |
| A.23.P35444    | -2.311 | 2.311 | -1.209 | down | SOLE         | Homo sapiens squamous cell carcinoma (SQCE), mRNA [NM_003129]   |
| A.24.P46234    | -2.310 | 2.310 | -1.208 | down | PAPB8        | Homo sapiens poly (ADP-ribose) polymerase family, member 8 (PAPB8), transcript variant 2, mRNA [NM_020313]  |
| A.23.P121888   | -2.309 | 2.309 | -1.207 | down | MAPKAP1      | Homo sapiens mitogen-activated protein kinase associated protein 1 (MAPKAP1), transcript variant 1, mRNA [NM_001008817]                                     |
| A.23.P216894   | -2.309 | 2.309 | -1.207 | down | CYFP2        | Homo sapiens cytoplasmic FMR1 interacting protein 2 (CYFP2), transcript variant 3, mRNA [NM_014378]   |
| A.33.P3228177  | -2.308 | 2.308 | -1.207 | down | DREM         | Homo sapiens endogenous retrovirus group K3, member 1 [Source:HGNC Symbol;Acc:HGNC:30466] [ENST00000413518]   |
| A.21.P0014820  | -2.308 | 2.308 | -1.207 | down | SMC1A        | Homo sapiens structural maintenance of chromosomes 1A (SMC1A), transcript variant 1, mRNA [NM_008308]   |
| A.23.P291979   | -2.306 | 2.306 | -1.205 | down | ACTA2        | Homo sapiens actin, alpha 2, smooth muscle, aorta (ACTA2), transcript variant 2, mRNA [NM_001613]   |
| A.24.P942604   | -2.306 | 2.306 | -1.205 | down | EGFL6        | Homo sapiens EGF-like domain, multiple 6 (EGFL6), transcript variant 2, mRNA [NM_001167890]   |
| A.23.P150053   | -2.305 | 2.305 | -1.205 | down | HCG22        | Homo sapiens H1A complex group 22 (HCG22), long non-coding RNA [NR_003948]  |
| A.33.P3242453  | -2.305 | 2.305 | -1.205 | down | SF3A3        | Homo sapiens splicein factor 3a, subunit 3, 100kDa (SF3A3), mRNA [NM_008802]  |
| A.21.P000193   | -2.305 | 2.305 | -1.205 | down | MORNI        | Homo sapiens MORN repeat containing 1 (MORNI), transcript variant 2, mRNA [NM_001301086]  |
| A.33.P3308334  | -2.305 | 2.305 | -1.205 | down | MORNI        | Homo sapiens minichromosome maintenance complex component 4 (MORNI), transcript variant 1, mRNA [NM_009114]   |
| A.23.P370689   | -2.304 | 2.304 | -1.204 | down | NUSE1        | Homo sapiens nucleolar protein 1 (NUSE1), transcript variant 2, mRNA [NM_017668]  |
| A.23.P365601   | -2.304 | 2.304 | -1.204 | down | PAR33-5      | Homo sapiens PAR33 transcript variant 5 (PAR33-5), mRNA [NM_193245]   |
| A.24.P334781   | -2.303 | 2.303 | -1.203 | down | PAR33        | Homo sapiens PAR33, transcript variant 3 (PAR33), mRNA [NM_193245]  |
| A.23.P264762   | -2.303 | 2.303 | -1.203 | down | ELPIL1       | Homo sapiens elongin A interacting protein 1-like (ELPIL1), transcript variant 1, mRNA [NM_0116610]   |
| A.23.P34568    | -2.303 | 2.303 | -1.203 | down | SIRT5        | Homo sapiens sirtuin 5 (SIRT5), transcript variant 1, mRNA [NM_012241]  |
| A.32.P1511866  | -2.302 | 2.302 | -1.203 | down | SGP22        | Homo sapiens sphingase-1-phosphate phosphatase 2 (SGP22), mRNA [NM_152386]  |
| A.33.P338547   | -2.302 | 2.302 | -1.203 | down | NIFK         | Homo sapiens nucleolar protein interacting with the FHA domain of Mki67 (NIFK), mRNA [NM_032390]  |
| A.23.P50887    | -2.301 | 2.301 | -1.202 | down | SUCLQ2-AS1   | Homo sapiens SUCLQ2 antisense RNA 1 (head to head) (SUCLQ2-AS1), transcript variant 2, long non-coding RNA [NR_108938]                                      |
| A.22.P00006161 | -2.301 | 2.301 | -1.202 | down | ARV1         | Homo sapiens ARV1 homolog (S. cerevisiae) (ARV1), mRNA [NM_022748]  |
| A.23.P13595    | -2.300 | 2.300 | -1.202 | down | ZNF582-AS1   | Homo sapiens ZNF582 antisense RNA 1 (head to head) (ZNF582-AS1), transcript variant 2, long non-coding RNA [NR_037160]                                      |
| A.33.P3501900  | -2.298 | 2.298 | -1.201 | down | ZNF652       | Homo sapiens zinc finger protein 652 (ZNF652), transcript variant 2, mRNA [NM_014897]   |
| A.23.P52526    | -2.298 | 2.298 | -1.200 | down | VEZF1        | Homo sapiens vesicular endothelial zinc finger 1 (VEZF1), transcript variant 1, mRNA [NM_007748]  |
| A.24.P324188   | -2.297 | 2.297 | -1.200 | down | ZNF780B      | Homo sapiens zinc finger protein 780B (ZNF780B), mRNA [NM_001009851]  |
| A.33.P334188   | -2.297 | 2.297 | -1.200 | down | IPNIE        | Homo sapiens intertein, epsilon (IPNIE), mRNA [NM_178891]   |
| A.23.P320288   | -2.297 | 2.297 | -1.200 | down | OTL0100      | Homo sapiens chromosome 17 open reading frame 100 (OTL0100), mRNA [NM_00103920]   |
| A.32.P153391   | -2.297 | 2.297 | -1.200 | down | PDK1L        | Homo sapiens phosphoinositide-dependent kinase-1, beta (PDK1L), transcript variant 1, mRNA [NM_193851]  |
| A.24.P405826   | -2.297 | 2.297 | -1.200 | down | MFSO1        | Homo sapiens major facilitator superfamily domain containing 1 (MFSO1), transcript variant 1, mRNA [NM_002738]  |
| A.33.P3251885  | -2.296 | 2.296 | -1.199 | down | ENTPD3       | Homo sapiens ectonucleoside triphosphate dihydrolyase 3 (ENTPD3), transcript variant 2, mRNA [NM_001248]  |
| A.23.P212469   | -2.296 | 2.296 | -1.199 | down | TRIM52-AS1   | Homo sapiens TRIM52 antisense RNA 1 (head to head) (TRIM52-AS1), transcript variant 4, long non-coding RNA [NR_102782]                                      |
| A.22.P00016775 | -2.296 | 2.296 | -1.198 | down | TRIM52-AS1   | Homo sapiens TRIM52 antisense RNA 1 (head to head) (TRIM52-AS1), transcript variant 4, long non-coding RNA [NR_102782]                                      |
| A.23.P371011   | -2.295 | 2.295 | -1.198 | down | TRIM52-AS1   | Homo sapiens zinc finger protein 227 (ZNF227), transcript variant 4, mRNA [NM_182489]   |

|                |        |        |       |               |  |
|----------------|--------|--------|-------|---------------|--|
| A.23.P132979   | -2,294 | -1,188 | 2,294 | FAM173B       | Homo sapiens family with sequence similarity 173, member B (FAM173B), transcript variant 1, mRNA [NM_189133]                       |
| A.23.P209819   | -2,294 | -1,188 | 2,294 | ATI2          | Homo sapiens atlastin GTPase 2 (ATI2), transcript variant 1, mRNA [NM_022374]  |
| A.23.P3377954  | -2,294 | -1,188 | 2,294 | PRICKLE3      | Homo sapiens prickle homolog 3 (Prickle3), transcript variant 1, mRNA [NM_006150]  |
| A.23.P164797   | -2,294 | -1,188 | 2,294 | PRICKLE5      | Homo sapiens zinc finger protein 580 (ZNF580), transcript variant 1, mRNA [NM_016292]  |
| A.21.P00006672 | -2,294 | -1,188 | 2,294 | RAEBG-AS1     | Homo sapiens RAEBG antisense RNA 1 (RAEBG-AS1), long non-coding RNA [NR_036937]  |
| A.22.P0007805  | -2,293 | -1,187 | 2,293 | HOXA9         | Homo sapiens homeobox A9 (HOXA9), mRNA [NM_152738]   |
| A.23.P151337   | -2,291 | -1,186 | 2,291 | DLEU1         | Homo sapiens deleted in lymphocytic leukemia 1 (non-protein coding) (DLEU1), transcript variant 2, long non-coding RNA [NR_020265] |
| A.33.P3070415  | -2,290 | -1,186 | 2,290 | NAK1B1        | Homo sapiens protein tyrosine phosphatase beta-like (GN5-related, putative) (NAK1B1), mRNA [NM_178537]                             |
| A.33.P3070416  | -2,290 | -1,186 | 2,290 | UBAG1         | Homo sapiens UBA domain containing 1 (UBAG1), mRNA [NM_016172]   |
| A.21.P00002623 | -2,290 | -1,185 | 2,290 | PTPRS         | Homo sapiens protein tyrosine phosphatase, receptor type, S (PTPRS), transcript variant 1, mRNA [NM_002650]                        |
| A.33.P3030428  | -2,289 | -1,185 | 2,289 | TNRC9C        | Homo sapiens trinucleotide repeat containing 6C (TNRC9C), transcript variant 1, mRNA [NM_00142840]                                 |
| A.23.P303210   | -2,289 | -1,185 | 2,289 | KEIP          | Homo sapiens KEIP interacting protein (KEIP), transcript variant 1, mRNA [NM_153827]   |
| A.24.P026064   | -2,288 | -1,184 | 2,288 | MDM2          | Homo sapiens MDM2 proto-oncogene, E3 ubiquitin protein ligase (MDM2), transcript variant 1, mRNA [NM_002392]                       |
| A.24.P087766   | -2,288 | -1,184 | 2,288 | NUDT1         | Homo sapiens nudix (nucleoside diphosphate linked moiety X)-type motif 21 (NUDT1), mRNA [NM_007006]                                |
| A.19.P00317647 | -2,288 | -1,184 | 2,288 | LINC01278     | Homo sapiens long intergenic non-protein coding RNA 1278 (LINC01278), long non-coding RNA [NR_015935]                              |
| A.23.P306659   | -2,288 | -1,184 | 2,288 | DOX1          | Homo sapiens DEAG box RNA-dependent ATPase 1 (DOX1), mRNA [NM_138337]  |
| A.23.P3222212  | -2,287 | -1,183 | 2,287 | RPHD11        | Homo sapiens RPH domain containing 1 (RPHD11), transcript variant 1, mRNA [NM_01282798]  |
| A.21.P0001596  | -2,287 | -1,183 | 2,287 | inc-CREG1-1   | LNGpedia lincRNA (inc-CREG1-1), lincRNA [inc-CREG1-1]  |
| A.22.P0001596  | -2,286 | -1,183 | 2,286 | inc-PLD1-1    | LNGpedia lincRNA (inc-PLD1-1), lincRNA [inc-PLD1-1]  |
| A.22.P00016700 | -2,286 | -1,183 | 2,286 | ZNF461        | Homo sapiens zinc finger protein 461 (ZNF461), transcript variant 1, mRNA [NM_153257]  |
| A.33.P3030336  | -2,286 | -1,183 | 2,286 | TSPAN33       | Homo sapiens tetraspanin, 33 (TSPAN33), mRNA [NM_178652]   |
| A.22.P00023378 | -2,286 | -1,183 | 2,286 | ZNF438        | Homo sapiens zinc finger protein 438 (ZNF438), transcript variant 2, mRNA [NM_182756]  |
| A.23.P161156   | -2,286 | -1,183 | 2,286 | MIR311G       | Homo sapiens MIR311 host gene (non-zinc coding), (MIR311G), long non-coding RNA [NR_027054]  |
| A.22.P00008004 | -2,286 | -1,183 | 2,286 | TCF3          | Homo sapiens transcription factor 3 (TCF3), transcript variant 1, mRNA [NM_003200]   |
| A.24.P306395   | -2,285 | -1,182 | 2,285 | LOC10274910   | long intergenic non-protein coding RNA (lincRNA) [Source:HGNC Symbol;Acc:HGNC:40074]   |
| A.21.P0011026  | -2,285 | -1,182 | 2,285 | SCARN18L      | [ENST00000265757]  |
| A.33.P3047459  | -2,285 | -1,182 | 2,285 | SCARN18L      | Homo sapiens small GTPase-specific RNA 9-like (SCARN18L), guide RNA [NR_023398]  |
| A.23.P167433   | -2,284 | -1,182 | 2,284 | EPHA1         | Homo sapiens EPH receptor A1 (EPHA1), mRNA [NM_005232]   |
| A.33.P3265224  | -2,284 | -1,182 | 2,284 | CEP68         | centrosomal protein 68kDa (Source:HGNC Symbol;Acc:HGNC:24076), [ENST00000575889]   |
| A.33.P101699   | -2,284 | -1,181 | 2,284 | PREDICTED:HEP | Homo sapiens uncharacterized LOC729887 (LOC729887), miss RNA [NR_248500]   |
| A.33.P3391476  | -2,283 | -1,181 | 2,283 | CRZ2          | Homo sapiens crystallin, zeta (crystallin reductase) (CRZ2), transcript variant 1, mRNA [NM_01130042]                              |
| A.33.P3393953  | -2,283 | -1,181 | 2,283 | CADM5-AS1     | Homo sapiens CADM5 antisense RNA 1 (CADM5-AS1), long non-coding RNA [NR_037707]  |
| A.23.P3030336  | -2,283 | -1,181 | 2,283 | USP31         | Homo sapiens ubiquitin specific peptidase 31 (USP31), mRNA [NM_020718]   |
| A.23.P163623   | -2,283 | -1,181 | 2,283 | ZNF184        | Homo sapiens zinc finger protein 184 (ZNF184), mRNA [NM_007149]  |
| A.33.P3030336  | -2,283 | -1,181 | 2,283 | ZNF184        | Homo sapiens zinc finger protein 184 (ZNF184), transcript variant 1, mRNA [NM_181706]  |
| A.33.P101699   | -2,283 | -1,180 | 2,283 | CEP68         | Homo sapiens centromere protein B (CEP68), transcript variant 1, mRNA [NM_003250]  |
| A.33.P101699   | -2,281 | -1,180 | 2,281 | PABPC4        | Homo sapiens poly(A) binding protein, cytoplasmic 4 (ribosome form) (PABPC4), transcript variant 3, mRNA [NM_001138654]            |
| A.33.P3271105  | -2,281 | -1,180 | 2,281 | NFK-AS1       | Homo sapiens NFK antisense RNA 1 (NFK-AS1), transcript variant 2, long non-coding RNA [NR_037856]                                  |
| A.21.P0000694  | -2,280 | -1,189 | 2,280 | OXRF23        | Homo sapiens chromosome X open reading frame 23 (OXRF23), mRNA [NM_189279]   |
| A.22.P00025162 | -2,279 | -1,188 | 2,279 | ATP10B        | Homo sapiens ATPase, class V, type 10B (ATP10B), mRNA [NM_025153]  |
| A.23.P311901   | -2,279 | -1,188 | 2,279 | PANK3-AS1     | Homo sapiens PANK3 antisense RNA 1 (PANK3-AS1), long non-coding RNA [NR_029383]  |
| A.22.P00024617 | -2,279 | -1,188 | 2,279 | NME3          | Homo sapiens NME3, nucleoside diphosphate kinase 3 (NME3), mRNA [NM_002519]  |
| A.23.P192115   | -2,278 | -1,188 | 2,278 | C1orf74       | Homo sapiens chromosome 11 open reading frame 74 (C1orf74), transcript variant 4, mRNA [NM_138737]                                 |
| A.24.P262846   | -2,278 | -1,188 | 2,278 | LOC101928045  | PREDICTED: Homo sapiens uncharacterized LOC101928045 (LOC101928045), ncRNA [XR_243745]   |
| A.21.P0014554  | -2,277 | -1,187 | 2,277 | inc-C1orf13-1 | GEN59 HUMAN (GEN59) RNF39 protein, partial (21), [TH29268818]  |
| A.22.P00003023 | -2,277 | -1,187 | 2,277 | inc-COP22-1   | LNGpedia lincRNA (inc-COP22-1), lincRNA [inc-COP22-1]  |
| A.22.P00004422 | -2,277 | -1,186 | 2,277 | ZNF501        | Homo sapiens zinc finger protein 501 (ZNF501), transcript variant 1, mRNA [NM_146044]  |
| A.24.P248141   | -2,275 | -1,186 | 2,275 | TOMM7         | Homo sapiens translocase of outer mitochondrial membrane 7 homolog (yeast) (TOMM7), mRNA [NM_016393]                               |
| A.33.P3047330  | -2,274 | -1,185 | 2,274 | COMMDB        | Homo sapiens coiled-coil domain containing 8 (COMMDB), mRNA [NM_017843]  |
| A.33.P3256856  | -2,274 | -1,185 | 2,274 | FARP2         | Homo sapiens FERM, PhdGEF and pleckstrin domain protein 2 (FARP2), transcript variant 1, mRNA [NM_016808]                          |
| A.23.P400895   | -2,273 | -1,185 | 2,273 | P4K2B         | Homo sapiens abaphatylin/inositol 4-kinase type 2 beta, (P4K2B), mRNA [NM_018323]  |
| A.21.P0005007  | -2,273 | -1,185 | 2,273 | inc-DEK-1     | LNGpedia lincRNA (inc-DEK-1), lincRNA [inc-DEK-1]  |
| A.24.P250535   | -2,273 | -1,184 | 2,273 | TMX4          | Homo sapiens thiazosin-related transmembrane protein 4 (TMX4), mRNA [NM_021156]  |
| A.22.P00028033 | -2,273 | -1,184 | 2,273 | NLRF13        | nucleosporin 13kDa (Source:HGNC Symbol;Acc:HGNC:18016), [ENST00000291386]  |
| A.23.P151791   | -2,271 | -1,184 | 2,271 | LTBR          | Homo sapiens leukotriene B4 receptor (LTBR), transcript variant 1, mRNA [NM_181657]  |
| A.33.P3030423  | -2,271 | -1,183 | 2,271 | FAM68A        | Homo sapiens family with sequence similarity 68, member A (FAM68A), transcript variant 5, mRNA [NM_001252723]                      |
| A.23.P433152   | -2,271 | -1,183 | 2,271 | C4orf33       | Homo sapiens chromosome 4 open reading frame 33 (C4orf33), transcript variant 1, mRNA [NM_173487]                                  |
| A.21.P0000686  | -2,270 | -1,183 | 2,270 | ADAM1A        | Homo sapiens ADAM metalloproteinase domain 1A (psuedogene) (ADAM1A), non-coding RNA [NR_036358]                                    |
| A.21.P0000886  | -2,269 | -1,182 | 2,269 | LOC102733832  | long intergenic non-protein coding RNA 183 [Source:HGNC Symbol;Acc:HGNC:45192]   |
| A.23.P164156   | -2,269 | -1,182 | 2,269 | DLX4          | Homo sapiens DLX homeobox 4 (DLX4), transcript variant 1, mRNA [NM_182814]   |
| A.33.P2629689  | -2,269 | -1,182 | 2,269 | COL4A6        | Homo sapiens collagen IV alpha 6 (Source:HGNC Symbol;Acc:HGNC:2263), [ENST00000401827]   |
| A.23.P256518   | -2,269 | -1,182 | 2,269 | MYL5          | Homo sapiens myosin light chain 5, regulator (MYL5), mRNA [NM_002427]  |
| A.23.P324523   | -2,269 | -1,182 | 2,269 | LOC6          | Homo sapiens IQ motif containing, LOC6, mRNA [NM_153208]   |
| A.23.P3063988  | -2,269 | -1,182 | 2,269 | C1RL          | Homo sapiens complement component 1, r subcomponent-like (C1RL), transcript variant 1, mRNA [NM_016546]                            |
| A.23.P253464   | -2,269 | -1,182 | 2,269 | FAM175A       | Homo sapiens family with sequence similarity 175, member A (FAM175A), mRNA [NM_139078]   |

|                |      |        |        |                |  |
|----------------|------|--------|--------|----------------|--|
| A.23.P319013   | down | -1.181 | -2.268 | ZNF383         | Human zinc finger protein 383 (ZNF383), mRNA [NM_152604]   |
| A.23.P167263   | down | -1.181 | -2.267 | TMEM43         | Human transmembrane protein 243, mitochondrial (TMEM43), mRNA [NM_024315]  |
| A.23.P295701   | down | -1.180 | -2.265 | LRRCC48        | Human leucine rich repeat containing 48 (LRRCC48), transcript variant 2, mRNA [NM_031294]  |
| A.33.P3244951  | down | -1.179 | -2.265 | PDE8A          | Human phosphodiesterase 8A (PDE8A), transcript variant 3, mRNA [NM_001243137]  |
| A.23.P59467    | down | -1.179 | -2.265 | IKBP1          | Human IKBKG interacting protein (IKBP1), transcript variant 2, mRNA [NM_201612]  |
| A.32.P112279   | down | -1.179 | -2.265 | CHTF8          | Human CTF8, chromosome transmission fidelity factor 8 homolog (S. cerevisiae) (CHTF8), transcript variant 1, mRNA [NM_001036980] |
| A.23.P421223   | down | -1.179 | -2.264 | TNFAIP2        | Human tumor necrosis factor, alpha-inducible protein 2 (TNFAIP2), mRNA [NM_006591]   |
| A.33.P3286963  | down | -1.179 | -2.264 | ARVCF          | Human armadillo repeat gene deleted in vesiculocardiac syndrome (ARVCF), mRNA [NM_0010710]                                       |
| A.33.P3292681  | down | -1.179 | -2.264 | KLHL31         | Human kelch-like family member 31 (KLHL31), mRNA [NM_001033769]  |
| A.23.P426258   | down | -1.179 | -2.264 | GRKLE1         | Human guanine nucleotide binding protein (G)-kinase (GRK) family class I, member 1, mRNA [NM_152626]                             |
| A.23.P434121   | down | -1.179 | -2.264 | KIAA147        | Human KIAA147 (KIAA147), mRNA [NM_001083929]   |
| A.23.P331834   | down | -1.178 | -2.263 | ZNF419         | Human zinc finger protein 419 (ZNF419), transcript variant 1, mRNA [NM_001089491]  |
| A.22.P0001822  | down | -1.178 | -2.263 | LOC621693      | LOC621693 (LOC621693), lincRNA [nc-PITPNC1-1], lincRNA [nc-PITPNC1-1], mRNA [NM_182764]  |
| A.23.P210538   | down | -1.178 | -2.263 | ELMO2          | Human serine/threonine kinase 2 (ELMO2), transcript variant 2, mRNA [NM_001035767]   |
| A.33.P3281063  | down | -1.178 | -2.262 | MAOR02         | Human olfactory marker protein 2 (MAOR02), transcript variant 3, mRNA [NM_005596]  |
| A.33.P3230279  | down | -1.178 | -2.262 | NFB            | Human nuclear factor, kappa-light-chain-inducible 1 (NF- $\kappa$ B), mRNA [NM_001035960]  |
| A.21.P0000262  | down | -1.177 | -2.261 | SNORA27        | Human small nucleolar RNA, H/ACA box 27 (SNORA27), small nucleolar RNA [NR_002975]   |
| A.21.P0011938  | down | -1.177 | -2.261 | ANKRD38B       | Human ankyrin repeat domain 38B (ANKRD38B), mRNA [NM_025190]   |
| A.23.P592727   | down | -1.177 | -2.260 | NAV2           | Human sodium channel neuron navigator 2 (NAV2), transcript variant 1, mRNA [NM_182964]   |
| A.33.P3361467  | down | -1.176 | -2.259 | FNAR2          | Human sodium ion channel, beta and omega 2 (FNAR2), transcript variant 2, mRNA [NM_008774]                                       |
| A.33.P3242053  | down | -1.176 | -2.259 | ZNF415         | Human zinc finger protein 415 (ZNF415), transcript variant 1, mRNA [NM_001380398]  |
| A.33.P3434331  | down | -1.175 | -2.259 | GLT1B1         | Human glycyl-t-transferase 8 domain containing 1 (GLT1B1), transcript variant 3, mRNA [NM_001039383]                             |
| A.33.P3279290  | down | -1.175 | -2.258 | IFB22          | Human intermediate filament family zyxin 2 (IFB22), mRNA [NM_001382965]  |
| A.23.P418031   | down | -1.175 | -2.258 | SH3BPGR        | Human SH3 domain binding glutamate rich protein (SH3BPGR), transcript variant 1, mRNA [NM_016341]                                |
| A.22.P00022663 | down | -1.174 | -2.257 | lincRRL30-1    | LOC621693 (LOC621693), lincRNA [nc-RPL30-1], lincRNA [nc-RPL30-1], mRNA [NM_001167595]   |
| A.33.P3312945  | down | -1.174 | -2.257 | AMAGR          | Human alpha-methylacyl-CoA racemase (AMAGR), transcript variant 3, mRNA [NM_001167595]   |
| A.33.P3248493  | down | -1.174 | -2.257 | MVB12B         | Human multivesicular body subunit 12B (MVB12B), transcript variant 1, mRNA [NM_039446]   |
| A.23.P188771   | down | -1.174 | -2.256 | CCDC146        | Human coiled-coil domain containing 146 (CCDC146), mRNA [NM_020879]  |
| A.23.P308873   | down | -1.173 | -2.255 | TAOK2          | Human tyrosine kinase 2 (TAOK2), transcript variant 2, mRNA [NM_004783]  |
| A.23.P367101   | down | -1.173 | -2.255 | AP0BEC3F       | Human apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3F (APOBEC3F), transcript variant 1, mRNA [NM_145298]     |
| A.19.P00800166 | down | -1.172 | -2.254 | LINC01116      | Human long intergenic non-protein coding RNA 1116 (LINC01116), long non-coding RNA [NR_049001]                                   |
| A.23.P370569   | down | -1.172 | -2.253 | CTP6B          | Human chromosome 12 open reading frame 66 (CTP6B), transcript variant 2, mRNA [NM_152440]  |
| A.23.P399146   | down | -1.171 | -2.252 | ZNF549         | Human zinc finger protein 549 (ZNF549), transcript variant 2, mRNA [NM_152928]   |
| A.33.P338771   | down | -1.171 | -2.252 | USP9X          | Human ubiquitin specific peptidase 9, X-linked (USP9X), transcript variant 3, mRNA [NM_001032906]                                |
| A.22.P00016333 | down | -1.171 | -2.251 | linc-TMEM159-2 | LOC621693 (LOC621693), lincRNA [nc-MG-37], lincRNA [nc-MG-37], mRNA [NM_001032906]   |
| A.22.P0008209  | down | -1.170 | -2.251 | TMEM44-AS1     | Human transmembrane protein 44 antisense RNA 1 (TMEM44-AS1), transcript variant 1, long non-coding RNA [NR_047673]               |
| A.23.P462624   | down | -1.170 | -2.251 | GSTF1          | Human glycyl-tRNA synthetase 1 (GSTF1), subunit 1, 50kDa, (GSTF1), transcript variant 2, mRNA [NM_001324]                        |
| A.33.P341970   | down | -1.170 | -2.250 | MLH1           | Human mismatch repair protein 1 (MLH1), transcript variant 1, mRNA [NM_000246]   |
| A.21.P0000228  | down | -1.169 | -2.249 | SNORD12C       | Human small nucleolar RNA, C/D box 12C (SNORD12C), small nucleolar RNA [NR_002433]   |
| A.24.P30125    | down | -1.169 | -2.248 | PP1A           | Human protein phosphatase 1, alpha (PP1A), transcript variant 1, mRNA [NM_021130]  |
| A.33.P3253812  | down | -1.169 | -2.248 | MEF2D          | Human myocyte enhancer factor 2D (MEF2D), transcript variant 1, mRNA [NM_005920]   |
| A.33.P3341656  | down | -1.168 | -2.248 | NFB2           | Human nuclear factor, kappa-light-chain-inducible 1 (NF- $\kappa$ B), mRNA [NM_139299]   |
| A.23.P308422   | down | -1.168 | -2.247 | ZKSCAN4        | Human zinc finger protein with RING and SCAN domains 4 (ZKSCAN4), mRNA [NM_019110]   |
| A.23.P133888   | down | -1.168 | -2.247 | linc-CHB-2     | LOC621693 (LOC621693), lincRNA [nc-CHB-2], lincRNA [nc-CHB-2], mRNA [NM_001127329]   |
| A.22.P0004103  | down | -1.168 | -2.247 | CHBSE1L        | Human chromosome homolog 3 (CHBSE1), transcript variant 1, mRNA [NM_001142966]   |
| A.23.P11649    | down | -1.167 | -2.246 | CHBSE1L        | Human chromosome homolog 3 (CHBSE1), transcript variant 1, mRNA [NM_001142966]   |
| A.23.P39664    | down | -1.167 | -2.245 | INPP5F         | Human inositol polyphosphate 5-phosphatase 7 (INPP5F), transcript variant 1, mRNA [NM_016837]                                    |
| A.24.P132276   | down | -1.167 | -2.245 | GRSL1          | Human alpha-amylase-RNA synthase (glutamine-hydrolyase)-like 1 (GRSL1), mRNA [NM_018292]   |
| A.23.P311268   | down | -1.166 | -2.244 | LOC729803      | LOC729803 (LOC729803), lincRNA [nc-109], lincRNA [nc-109], mRNA [NM_133498]  |
| A.33.P335040   | down | -1.165 | -2.243 | HMGNS5         | Human high mobility group nucleosome binding domain 5 (HMGNS5), mRNA [NM_030785]   |
| A.23.P136809   | down | -1.165 | -2.242 | TMEM237        | Human transmembrane protein 237 (TMEM237), transcript variant 1, mRNA [NM_001044395]   |
| A.23.P270067   | down | -1.165 | -2.242 | FAM57A         | Human family with sequence similarity 57, member A (FAM57A), mRNA [NM_024792]  |
| A.23.P50000    | down | -1.165 | -2.242 | LOC621693      | LOC621693 (LOC621693), lincRNA [nc-LH12CR1-1], lincRNA [nc-LH12CR1-1], mRNA [NM_001035767]                                       |
| A.22.P00021919 | down | -1.164 | -2.241 | ECHH           | Human enoyl-CoA hydratase 1, peroxisomal (ECHH), mRNA [NM_001388]  |
| A.23.P153653   | down | -1.164 | -2.241 | RAO5D          | Human RAO5D paralog D (RAO5D), transcript variant 6, mRNA [NM_001142571]   |
| A.24.P395650   | down | -1.164 | -2.240 | TMEM168        | Human transmembrane protein 168 (TMEM168), transcript variant 2, mRNA [NM_001022484]   |
| A.24.P414852   | down | -1.163 | -2.240 | FTO-T1         | Human FTO intronic transcript 1 (non-protein coding) (FTO-T1), long non-coding RNA [NR_103639]                                   |
| A.21.P0014327  | down | -1.163 | -2.240 | DLEU2L         | Human deleted in lymphocytic leukemia 2, like (DLEU2L), non-coding RNA [NR_027771]   |
| A.33.P326219   | down | -1.163 | -2.240 | LOC621693      | LOC621693 (LOC621693), lincRNA [nc-CHX1-1], lincRNA [nc-CHX1-1], mRNA [NM_152927]  |
| A.23.P418464   | down | -1.162 | -2.239 | ZNF572         | Human zinc finger protein 572 (ZNF572), transcript variant 3, non-coding RNA [NR_024181]   |
| A.23.P308517   | down | -1.162 | -2.238 | LOC105066476   | LOC105066476 (LOC105066476), lincRNA [nc-ORF476], lincRNA [nc-ORF476], mRNA [NM_108895]  |
| A.21.P0008167  | down | -1.162 | -2.238 | TALAN2         | Human transmembrane protein 237 (TMEM237), transcript variant 1, mRNA [NM_00127224]  |
| A.33.P3313760  | down | -1.162 | -2.238 | ZNF570         | Human zinc finger protein 570 (ZNF570), transcript variant 2, mRNA [NM_144894]   |
| A.23.P79145    | down | -1.162 | -2.237 | RAMP1          | Human receptor (G protein-coupled) activity modifying protein 1 (RAMP1), mRNA [NM_008855]  |
| A.33.P3233006  | down | -1.161 | -2.237 | TUBA4A         | Human tubulin, alpha 4a (TUBA4A), transcript variant 1, mRNA [NM_008600]   |
| A.23.P164065   | down | -1.161 | -2.237 | TUBA4A         | Human tubulin, alpha 4a (TUBA4A), transcript variant 1, mRNA [NM_008600]   |



|                |        |        |       |               |  |
|----------------|--------|--------|-------|---------------|--|
| A_33_P0406794  | -2.235 | -1.161 | 2.235 | LINC00894     | Homo sapiens long intergenic non-protein coding RNA 924 (LINC00894), transcript variant 1, long non-coding RNA [NR 027132]                                   |
| A_24_P080043   | -2.235 | -1.160 | 2.235 | PCGF5         | Homo sapiens euchromatin group ring finger 5 (PCGF5), transcript variant 1, mRNA [NM 032273]   |
| A_33_P030083   | -2.234 | -1.160 | 2.234 | VX2           | Homo sapiens variable charge, X-linked 2 (VX2), mRNA [NM 016878]   |
| A_23_P07616    | -2.234 | -1.160 | 2.234 | ATP9C2        | Homo sapiens ATP synthase, H <sup>+</sup> -transporting, mitochondrial Fo complex, subunit C2 (subunit 9) (ATP9C2), transcript variant 1, mRNA [NM 00102931] |
| A_23_P132669   | -2.234 | -1.159 | 2.234 | GLT1B01       | Homo sapiens glycosyltransferase 8 domain containing 1 (GLT1B01), transcript variant 3, mRNA [NM 001010983]  |
| A_33_P0304883  | -2.233 | -1.159 | 2.233 | PREDC1E2      | U1-CF-FN0-sev-r-05-0-U1.s1 U1-CF-FN0 Homo sapiens cDNA clone U1-CF-FN0-sev-r-05-0-U1.3; RNA sequence [GB81972]   |
| A_33_P0370946  | -2.233 | -1.159 | 2.233 | LOC729370     | Homo sapiens uncharacterized LOC729370 (LOC729370), misc RNA [XR 12442]  |
| A_24_P041524   | -2.232 | -1.158 | 2.232 | CE35          | Homo sapiens CE35 (CE35), mRNA [NM 002498]   |
| A_23_P146111   | -2.231 | -1.158 | 2.231 | NPAL2         | Homo sapiens NPAL2-like domain containing 2 (NPAL2), mRNA [NM 024759]  |
| A_22_P00016605 | -2.231 | -1.158 | 2.231 | lnc-TSKU1-1   | Homo sapiens cDNA EL44301, lnc, clone BRAMY204.62, [AK 12326]  |
| A_22_P00006138 | -2.230 | -1.157 | 2.230 | lnc-FAM184B-1 | Q484V3 HUMAN Q484V3 (B1B3) protein, partial (48), [HC2731677]  |
| A_24_P2717155  | -2.230 | -1.157 | 2.230 | HLTF          | Homo sapiens helicase-like transcription factor (HLTF), transcript variant 1, mRNA [NM 003071]   |
| A_33_P038186   | -2.230 | -1.157 | 2.230 | HEXOC         | Homo sapiens hexosaminidase (glycosyl hydrolase family 20, catalytic domain) containing (HEXOC), mRNA [NM 173820]  |
| A_33_P0214303  | -2.229 | -1.157 | 2.229 | FOXPI         | Homo sapiens forkhead box P1 (FOXPI), transcript variant 3, mRNA [NM 001244806]  |
| A_23_P47681    | -2.229 | -1.157 | 2.229 | TRIM21        | Homo sapiens tripartite motif containing 21 (TRIM21), mRNA [NM 003141]   |
| A_33_P0364200  | -2.229 | -1.156 | 2.229 | LOC729261     | PREDIC1E2: Homo sapiens uncharacterized LOC729261 (LOC729261), misc RNA [XR 249454]  |
| A_24_P046236   | -2.228 | -1.156 | 2.228 | NDUJF2        | Homo sapiens NADH dehydrogenase (ubiquinone) 1, subcomplex unknown; 2, 14, 8kDa (NDUJF2), transcript variant 1, mRNA [NM 004546]                             |
| A_23_P417282   | -2.228 | -1.156 | 2.228 | IGFIR         | Homo sapiens insulin-like growth factor 1 receptor (IGF1R), transcript variant 1, mRNA [NM 000975]   |
| A_23_P043163   | -2.228 | -1.156 | 2.228 | OGGBP1        | Homo sapiens OGG triplet repeat binding protein 1 (OGGBP1), transcript variant 1, mRNA [NM 001005390]  |
| A_23_P0308     | -2.227 | -1.155 | 2.227 | GPX2          | Homo sapiens glutathione peroxidase 2 (glutathione) (GPX2), transcript variant 1, mRNA [NM 002651]   |
| A_23_P027618   | -2.227 | -1.155 | 2.227 | GRBP          | Homo sapiens RNA binding protein (Source: NCBI Symbol) (GRBP), transcript variant 1, mRNA [NM 0000681399]  |
| A_23_P045482   | -2.227 | -1.155 | 2.227 | IL1D          | Homo sapiens interleukin 1D (IL1D), mRNA [NM 130924]   |
| A_21_P0016824  | -2.227 | -1.155 | 2.227 | PREDIC1E2     | Homo sapiens uncharacterized LOC102724957 (LOC102724957), mRNA [NR 424638]   |
| A_24_P026519   | -2.227 | -1.155 | 2.227 | ZNF250        | Homo sapiens zinc finger protein 250 (ZNF250), transcript variant 1, mRNA [NM 021061]  |
| A_22_P00001600 | -2.227 | -1.155 | 2.227 | DTIO2         | Homo sapiens uncharacterized LOC101589451 (LOC101589451), long non-coding RNA [NR 103492]  |
| A_33_P037144   | -2.226 | -1.155 | 2.226 | KIAA1938      | Homo sapiens D-xylosyl-RNA deoxyribose 2 (putative) (D1D2), mRNA [NM 0060684]  |
| A_33_P0419139  | -2.226 | -1.154 | 2.226 | KIAA1938      | Homo sapiens KIAA1938 (KIAA1938), transcript variant 1, mRNA [NM 001127211]  |
| A_33_P0382866  | -2.225 | -1.154 | 2.225 | RIC8B         | Homo sapiens RIC8B guanine nucleotide exchange factor B (RIC8B), mRNA [NM 018157]  |
| A_23_P00810    | -2.225 | -1.154 | 2.225 | KIAA0513      | Homo sapiens KIAA0513 (KIAA0513), transcript variant 2, mRNA [NM 014729]   |
| A_23_P0431     | -2.225 | -1.154 | 2.225 | MNI           | Homo sapiens meningioma (disrupted in balanced translocation) 1 (MNI), mRNA [NM 002430]  |
| A_23_P100680   | -2.224 | -1.153 | 2.224 | SERPINF1      | Homo sapiens serpin peptidase inhibitor, clade F (alpha-2 antipainin, pigment epithelium derived factor), member 1 (SERPINF1), mRNA [NM 002615]              |
| A_33_P0342111  | -2.224 | -1.153 | 2.224 | ZNF169        | Homo sapiens cDNA FLJ16440, lnc, clone BRAMY3003928, highly similar to Zinc finger protein 169, [AK124232]   |
| A_23_P047452   | -2.224 | -1.153 | 2.224 | ZNF583        | Homo sapiens zinc finger protein 583 (ZNF583), transcript variant 1, mRNA [NM 152478]  |
| A_23_P107386   | -2.222 | -1.152 | 2.222 | PKR           | Homo sapiens interferon-gamma-inducible kinase 1 (HK1), transcript variant 3, mRNA [NM 035350]   |
| A_23_P036281   | -2.221 | -1.151 | 2.221 | DESI1         | Homo sapiens desferrioxamine B (DFO) transporter 3 (DESI1), mRNA [NM 014246]   |
| A_33_P036281   | -2.221 | -1.151 | 2.221 | DESI1         | Homo sapiens desferrioxamine B (DFO) transporter 3 (DESI1), mRNA [NM 014246]   |
| A_23_P092750   | -2.219 | -1.150 | 2.219 | MDM2          | Homo sapiens MDM2 proto-oncogene, E3 ubiquitin protein ligase (MDM2), transcript variant 1, mRNA [NM 002832]   |
| A_24_P041051   | -2.219 | -1.150 | 2.219 | OSTF2T        | Homo sapiens cleavage stimulation factor, 3' pre-RNA, subunit 2, 640Da, tau variant (OSTF2T), mRNA [NM 015235]   |
| A_33_P0406840  | -2.218 | -1.149 | 2.218 | HRSPT12       | high mobility group nucleosomal binding domain 2 pseudogene 20 [Source:HGNC Symbol;Acc:HGNC:39885] [ENS:00000437593]   |
| A_23_P134714   | -2.218 | -1.149 | 2.218 | HRSPT12       | Homo sapiens heat-responsive protein 12 (HRSPT12), mRNA [NM 005836]  |
| A_24_P411989   | -2.217 | -1.149 | 2.217 | RNF19A        | Homo sapiens ring finger protein 19A, RBR E3 ubiquitin protein ligase (RNF19A), transcript variant 1, mRNA [NM 183419]                                       |
| A_23_P001080   | -2.217 | -1.149 | 2.217 | ZNF572        | Homo sapiens zinc finger protein 572 (ZNF572), mRNA [NM 152412]  |
| A_23_P16781    | -2.215 | -1.147 | 2.215 | MOK           | Homo sapiens MOK protein kinase (MOK), transcript variant 1, mRNA [NM 014226]  |
| A_23_P03438    | -2.215 | -1.147 | 2.215 | UBE2Z         | Homo sapiens ubiquitin-conjugating enzyme E2Z (UBE2Z), transcript variant 1, mRNA [NM 023079]  |
| A_23_P027055   | -2.215 | -1.147 | 2.215 | MEM88         | Homo sapiens transmembrane protein 88 (TMEM88), transcript variant 1, mRNA [NM 019544]   |
| A_23_P160025   | -2.215 | -1.147 | 2.215 | IFI16         | Homo sapiens interferon, gamma-inducible protein 16 (IFI16), transcript variant 2, mRNA [NM 035351]  |
| A_23_P167465   | -2.215 | -1.147 | 2.215 | UBXN8         | Homo sapiens UBX domain protein 8 (UBXN8), transcript variant 1, mRNA [NM 035371]  |
| A_23_P097365   | -2.214 | -1.147 | 2.214 | LRRCHD        | Homo sapiens leucine rich repeat containing 8 family, member D (LRRCHD), transcript variant 2, mRNA [NM 018103]  |
| A_23_P126554   | -2.214 | -1.146 | 2.214 | EBP3          | Homo sapiens epsilon-aminolactone-binding protein-like (EBP3), transcript variant 1, mRNA [NM 022655]  |
| A_24_P132824   | -2.213 | -1.146 | 2.213 | NIPSNAP2B     | Homo sapiens nipsoap homolog 2B (C-epsilon) (NIPSNAP2B), mRNA [NM 018376]  |
| A_33_P0231560  | -2.213 | -1.146 | 2.213 | lnc-ANKK1-1   | NM 087889, CO8.1, [Caenorhabditis elegans] (xpr-1, wpr-5, epr-3), partial (56), [HC2568367]  |
| A_21_P0011962  | -2.213 | -1.146 | 2.213 | LINC01473     | Homo sapiens long intergenic non-protein coding RNA 1473 (LINC01473), long non-coding RNA [NR 110218]  |
| A_23_P0410613  | -2.213 | -1.146 | 2.213 | TMEM363       | Homo sapiens transmembrane protein 263 (TMEM363), mRNA [NM 152261]   |
| A_24_P026248   | -2.212 | -1.146 | 2.212 | ZC3H6         | Homo sapiens zinc finger, CCHC-type, containing 6 (ZC3H6), mRNA [NM 198583]  |
| A_23_P02785    | -2.212 | -1.145 | 2.212 | ITGB3BP       | Homo sapiens integrin beta 3 binding protein (beta3-endonectin) (ITGB3BP), transcript variant 2, mRNA [NM 014238]  |
| A_21_P0006566  | -2.211 | -1.145 | 2.211 | lnc-FAB40A1-1 | BX114424 Soares placenta NB2HP Homo sapiens cDNA clone MA6989L02197, mRNA sequence [BX114424]  |
| A_22_P00003353 | -2.211 | -1.145 | 2.211 | LINC00882     | Homo sapiens long intergenic non-protein coding RNA 882 (LINC00882), long non-coding RNA [NR 028303]   |
| A_24_P164365   | -2.211 | -1.145 | 2.211 | BBS1          | Homo sapiens Bardet-Biedl syndrome 1 (BBS1), mRNA [NM 026469]  |
| A_33_P0347113  | -2.210 | -1.144 | 2.210 | PADP1         | Homo sapiens fatty acid amide hydrolase pseudogene 1 (PADP1), non-coding RNA [NR 045483]   |
| A_33_P039870   | -2.210 | -1.144 | 2.210 | DEFBP1        | Homo sapiens cyclamide synthase 6 (DEFBP1), transcript variant 1, mRNA [NM 00128123]   |
| A_24_P122403   | -2.209 | -1.144 | 2.209 | TCEB3         | Homo sapiens transcription elongation factor B (SII); polypeptide 3 (TCEB3, elongin A) (TCEB3), mRNA [NM 003188]   |
| A_33_P0370621  | -2.209 | -1.143 | 2.209 | CASC2         | Homo sapiens cancer susceptibility candidate 2 (non-protein coding) (CASC2), transcript variant 3, long non-coding RNA [NR 028941]                           |
| A_33_P0203959  | -2.209 | -1.143 | 2.209 | RASA4         | Homo sapiens RAS GTP protein activator 4 (RASA4), transcript variant 1, mRNA [NM 006889]   |
| A_33_P0242619  | -2.208 | -1.143 | 2.208 | HNRNPM        | Homo sapiens heterogeneous nuclear ribonucleoprotein M (HNRNPM), transcript variant 1, mRNA [NM 005966]  |

|                |      |        |        |       |                    |  |
|----------------|------|--------|--------|-------|--------------------|--|
| A.33.P3344473  | down | -2.208 | -1.143 | 2.208 | PHF21A             | Homo sapiens PHD finger protein 21A (PHF21A), transcript variant 1, mRNA [NM_001018020]  |
| A.23.P53152    | down | -2.207 | -1.142 | 2.207 | AKP1               | Homo sapiens A kinase (PRKA) interacting protein 1 (AKP1), transcript variant 1, mRNA [NM_0208642]                                   |
| A.32.P304795   | down | -2.206 | -1.141 | 2.206 | ZNF687-AS1         | Homo sapiens ZNF687 antisense RNA 1 (head to head) (ZNF687-AS1), long non-coding RNA [NR_036522]                                     |
| A.24.P274270   | down | -2.206 | -1.141 | 2.206 | STAT1              | Homo sapiens signal transducer and activator of transcription 1, 910a (STAT1), transcript variant beta, mRNA [NM_039266]             |
| A.21.P0071556  | down | -2.205 | -1.141 | 2.205 | SUTRKB             | MIR646 host gene (non-protein coding) [Source:HGNC Symbols/AcHGNC:27659] [ENST0000049422]  |
| A.32.P203528   | down | -2.204 | -1.140 | 2.204 | SYCE2              | Homo sapiens SYT and NTRK-like family, member 8 (SUTRKB), mRNA [NM_032923]   |
| A.33.P3231262  | down | -2.203 | -1.140 | 2.203 | LOC257386          | Homo sapiens SYT and NTRK-like family, member 8 (SUTRKB), mRNA [NM_001105578]  |
| A.23.P415015   | down | -2.203 | -1.140 | 2.203 | ATL2               | Homo sapiens uncharacterized LOC257386 (LOC257386), transcript variant 1, long non-coding RNA [NR_034107]                            |
| A.33.P3231842  | down | -2.203 | -1.140 | 2.203 | CCDC7              | Homo sapiens uncharacterized LOC257386 (LOC257386), transcript variant 1, long non-coding RNA [NR_034107]                            |
| A.33.P3571142  | down | -2.203 | -1.140 | 2.203 | INC-ANKRD11-5      | Homo sapiens uncharacterized LOC257386 (LOC257386), transcript variant 1, long non-coding RNA [NR_034107]                            |
| A.19.P00316701 | down | -2.203 | -1.140 | 2.203 | SNHG5              | Homo sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5), long non-coding RNA [NR_003038]                           |
| A.23.P0880     | down | -2.203 | -1.140 | 2.203 | ZNF717             | Homo sapiens zinc finger protein 717 (ZNF717), transcript variant 4, mRNA [NM_001280210]   |
| A.24.P012446   | down | -2.203 | -1.140 | 2.203 | C6orf69            | Homo sapiens zinc finger protein 717 (ZNF717), transcript variant 4, mRNA [NM_001280210]   |
| A.33.P302736   | down | -2.202 | -1.139 | 2.202 | ZSCAN30            | Homo sapiens zinc finger and SCAN domain containing 30 (ZSCAN30), transcript variant 1, mRNA [NM_001168012]                          |
| A.33.P327454   | down | -2.202 | -1.139 | 2.202 | RSPRY1             | Homo sapiens zinc finger and SRY domain containing 1 (RSPRY1), mRNA [NM_033366]  |
| A.33.P328023   | down | -2.201 | -1.138 | 2.201 | SGPEP1             | Homo sapiens serine carboxypeptidase 1 (SGPEP1), mRNA [NM_021626]  |
| A.24.P413126   | down | -2.201 | -1.138 | 2.201 | RMDN2              | Homo sapiens regulator of microtubule dynamics 2 (RMDN2), transcript variant 1, mRNA [NM_144713]                                     |
| A.33.P3290719  | down | -2.200 | -1.138 | 2.200 | DEGS1              | Homo sapiens delta(4)-desaturase, splanchnicid 1 (DEGS1), mRNA [NM_003676]   |
| A.33.P3314794  | down | -2.198 | -1.136 | 2.198 | IOCA1              | Homo sapiens IO motif containing with AAA domain 1 (IOCA1), transcript variant 1, mRNA [NM_024726]                                   |
| A.21.P0014754  | down | -2.197 | -1.136 | 2.197 | C7orf50            | Homo sapiens chromosome 7 open reading frame 50 (C7orf50), transcript variant 1, mRNA [NM_028356]                                    |
| A.23.P134477   | down | -2.197 | -1.135 | 2.197 | SELL1              | Homo sapiens sel-1 suppressor of lin-12-like (C. elegans) (SELL1), transcript variant 1, mRNA [NM_005065]                            |
| A.33.P3247078  | down | -2.197 | -1.135 | 2.197 | TTLL1              | Homo sapiens tubulin tyrosine ligase-like family member 11 (TTLL1), transcript variant 2, mRNA [NM_194252]                           |
| A.23.P336862   | down | -2.196 | -1.135 | 2.196 | ANK3               | Homo sapiens ankyrin 3, node of Ranvier (Ankyrin 3) (ANK3), transcript variant 1, mRNA [NM_020867]                                   |
| A.23.P202289   | down | -2.195 | -1.134 | 2.195 | PMEPA1             | Homo sapiens prostate transmembrane protein, androgen induced 1 (PMEPA1), transcript variant 1, mRNA [NM_020182]                     |
| A.24.P413126   | down | -2.195 | -1.134 | 2.195 | INC-AF131215.2.1-1 | Homo sapiens primary neuroblastoma cDNA, cloneNba00437, full insert sequence, [AB078660]   |
| A.23.P431205   | down | -2.195 | -1.134 | 2.195 | MDM1               | Homo sapiens Mdm1 nuclear protein homolog (mouse) (MDM1), transcript variant 2, mRNA [NM_020128]                                     |
| A.23.P204782   | down | -2.195 | -1.134 | 2.195 | NR2F2-AS1          | Homo sapiens NR2F2 antisense RNA 1 (NR2F2-AS1), transcript variant 3, long non-coding RNA [NR_125736]                                |
| A.33.P3421318  | down | -2.193 | -1.133 | 2.193 | PPP5D1             | Homo sapiens PPP5 tetrapeptide repeat domain containing 1 (PPP5D1), mRNA [NM_001295281]  |
| A.21.P0000166  | down | -2.192 | -1.132 | 2.192 | SCUBE2             | Homo sapiens signal peptide, CUB domain, EGF-like 2 (SCUBE2), transcript variant 1, mRNA [NM_009716]                                 |
| A.23.P105144   | down | -2.191 | -1.132 | 2.191 | BBS12              | Homo sapiens Bardet-Biedl syndrome 12 (BBS12), transcript variant 2, mRNA [NM_155616]  |
| A.32.P235196   | down | -2.191 | -1.132 | 2.191 | TFAM               | Homo sapiens transcription factor A, mitochondrial (TFAM), transcript variant 2, mRNA [NM_001207892]                                 |
| A.33.P338188   | down | -2.191 | -1.132 | 2.191 | SPAL4              | Homo sapiens SPAL4 nuclear body protein, GFP400, transcript variant 1, mRNA [NM_0010237]   |
| A.24.P328504   | down | -2.191 | -1.131 | 2.191 | ACAG9              | Homo sapiens acyl-CoA carboxylase beta (ACAG9), mRNA [NM_001095]   |
| A.33.P334220   | down | -2.190 | -1.131 | 2.190 | IL13RA3            | Homo sapiens interleukin 13 receptor, alpha (IL13RA3), transcript variant 2, mRNA [NM_172200]  |
| A.23.P1336880  | down | -2.190 | -1.130 | 2.190 | PRAD31             | Homo sapiens protease-associated domain containing 1 (PRAD31), mRNA [NM_032319]  |
| A.23.P131596   | down | -2.188 | -1.130 | 2.188 | H2AFV2             | Homo sapiens H2A histone family, member V2 (H2AFV2), mRNA [NM_018649]  |
| A.23.P127133   | down | -2.188 | -1.130 | 2.188 | U1V2               | Homo sapiens unc-51 like autophagy activating kinase 2 (U1K2), transcript variant 1, mRNA [NM_014683]                                |
| A.33.P3264412  | down | -2.188 | -1.130 | 2.188 | ZNF329             | Homo sapiens zinc finger protein 329 (ZNF329), mRNA [NM_024620]  |
| A.23.P413634   | down | -2.188 | -1.130 | 2.188 | RANBP17            | RAN binding protein 17 [Source:HGNC Symbols/AcHGNC:14428] [ENST00000597393]  |
| A.23.P58819    | down | -2.188 | -1.130 | 2.188 | KIAA0195           | Homo sapiens KIAA0195 (KIAA0195), mRNA [NM_014728]   |
| A.24.P416288   | down | -2.187 | -1.129 | 2.187 | GPX4               | Homo sapiens glutathione peroxidase 4 (GPX4), transcript variant 3, mRNA [NM_01039446]   |
| A.33.P303662   | down | -2.187 | -1.129 | 2.187 | KEBP2              | Homo sapiens KE binding protein 2 (KEBP2), transcript variant 1, mRNA [NM_152077]  |
| A.24.P18671    | down | -2.186 | -1.128 | 2.186 | SLC35A3            | Homo sapiens solute carrier family 35, member 3 (SLC35A3), mRNA [NM_016650]  |
| A.21.P161103   | down | -2.185 | -1.128 | 2.185 | SA230              | Homo sapiens SIVA-related protein 20kDa (SAP20), mRNA [NM_033884]  |
| A.23.P121602   | down | -2.185 | -1.127 | 2.185 | MFF                | Homo sapiens mitochondrial fission factor (MFF), transcript variant 2, mRNA [NM_020184]  |
| A.23.P292494   | down | -2.184 | -1.127 | 2.184 | RGSL2              | Homo sapiens regulator of G-protein signaling 12 (RGSL2), transcript variant 1, mRNA [NM_182291]                                     |
| A.33.P3268153  | down | -2.184 | -1.127 | 2.184 | VPS37D             | Homo sapiens vesicular protein sorting 37 homolog D (S. cerevisiae) (VPS37D), mRNA [NM_001077621]                                    |
| A.33.P3239573  | down | -2.184 | -1.126 | 2.183 | ZNF589             | Homo sapiens cDNA clone IMAGE5267335, [BC0268989]  |
| A.32.P130577   | down | -2.183 | -1.126 | 2.183 | ZNF589             | Homo sapiens zinc finger protein 589 (ZNF589), mRNA [NM_016089]  |
| A.24.P247878   | down | -2.183 | -1.126 | 2.183 | LOC10192785        | Homo sapiens uncharacterized LOC10192785 (LOC10192785), long non-coding RNA [NR_110219]  |
| A.23.P231923   | down | -2.182 | -1.126 | 2.182 | ELL2               | Homo sapiens elongation factor, RNA polymerase II, 2 (ELL2), mRNA [NM_012081]  |
| A.33.P58506    | down | -2.182 | -1.126 | 2.182 | LOC10192785        | GI44811.11 NCICGAP Bm25 Homo sapiens cDNA clone IMAGE209189 3 similar to SWI6A2/HUMAN GI44571/EA2 PROTEIN-, mRNA sequences [A421806] |
| A.19.P00316423 | down | -2.182 | -1.126 | 2.182 | CXorf23            | Homo sapiens chromosome X open reading frame 23 (CXorf23), mRNA [NM_195729]  |
| A.24.P467736   | down | -2.181 | -1.125 | 2.181 | N4BP2L2-T12        | Homo sapiens N4BP2L2 intronic transcript 2 (non-protein coding) (N4BP2L2-T12), long non-coding RNA [NR_028928]                       |
| A.33.P337984   | down | -2.181 | -1.125 | 2.181 | HECHT              | Homo sapiens 3-hydroxyisobutyryl-CoA hydrolase (HECHT), transcript variant 1, mRNA [NM_014362]                                       |
| A.23.P154545   | down | -2.180 | -1.124 | 2.180 | COGND              | Homo sapiens coiled-coil domain containing 2 (COGND), transcript variant 1, mRNA [NM_021147]   |
| A.23.P32860    | down | -2.179 | -1.124 | 2.179 | BUOP2              | Homo sapiens BUOP1 and BUOP2 patch domain containing 2 (BUOP2), transcript variant 1, mRNA [NM_001017188]                            |
| A.23.P18562    | down | -2.179 | -1.123 | 2.179 | INC-CHD11-1        | NCSC001a, lncRNA, [inc-CHD11-1], lncRNA [inc-CHD11-1]  |
| A.21.P0001702  | down | -2.178 | -1.123 | 2.178 | SNORA28            | Homo sapiens small nucleolar RNA, H-ACA box 28 (SNORA28), small nucleolar RNA [NR_022864]  |
| A.22.P0000510  | down | -2.178 | -1.123 | 2.178 | LIAS               | Homo sapiens cDNA ELH43182, linc, clone, D03S12003024, AKI125142   |
| A.23.P254081   | down | -2.178 | -1.123 | 2.178 | LIAS               | Homo sapiens lipoic acid synthetase (LIAS), transcript variant 1, mRNA [NM_008565]   |
| A.22.P00017562 | down | -2.177 | -1.122 | 2.177 | LINC00864          | Homo sapiens long intergenic non-protein coding RNA 84 (LINC00864), long non-coding RNA [NR_015427]                                  |



|                |      |        |        |       |              |  |
|----------------|------|--------|--------|-------|--------------|--|
| A.33.P3288359  | down | -2.149 | -1.104 | 2.149 | PSMB10       | Homo sapiens proteasome (prosome, macropain) subunit, beta type, 10 (PSMB10), mRNA [NM_002801]   |
| A.33.P3300253  | down | -2.149 | -1.104 | 2.149 | P17H00B      | Homo sapiens protein tyrosine phosphatase, non-receptor type 20B (PTPN20B), transcript variant 1, mRNA [NM_001042337]                      |
| A.23.P182278   | down | -2.149 | -1.103 | 2.149 | DEFR3        | Homo sapiens centromeric protein 83kDa (CEP83), transcript variant 1, mRNA [NM_0161122]  |
| A.23.P001066   | down | -2.148 | -1.103 | 2.148 | DEPTOR       | Homo sapiens DEP domain containing MTOR-interacting protein (DEPTOR), transcript variant 1, mRNA [NM_027783]                               |
| A.33.P3414202  | down | -2.148 | -1.103 | 2.148 | MBNL3        | Homo sapiens muscleblind-like splicing regulator 3 (MBNL3), transcript variant 6, mRNA [NM_001170704]                                      |
| A.21.P0010468  | down | -2.148 | -1.103 | 2.148 | MAF1         | MAF1-interacting protein (Gle2pGdo) [Source:HGNC Symbol;Acc:HGNC:31102] [ENS:00000929700]  |
| A.33.P3450166  | down | -2.148 | -1.103 | 2.148 | MMAA         | Homo sapiens methylmalonic aciduria (cobalamin deficiency) cblA type (MMAA), mRNA [NM_172830]  |
| A.33.P3391068  | down | -2.148 | -1.103 | 2.148 | SLC7L7       | Homo sapiens solute carrier family 7 (Xc1/2), transcript variant 1, mRNA [NM_001080827]  |
| A.21.P0020223  | down | -2.148 | -1.103 | 2.148 | DXIF1-AS1    | Homo sapiens DXIF1-like 1 (DXIF1L1), long non-coding RNA [NR_028827]   |
| A.23.P184228   | down | -2.148 | -1.103 | 2.148 | ATP5G1       | Homo sapiens ATP5-ATPase 1b, mitochondrial P <sub>0</sub> complex, subunit C1 (subunit 9) (ATP5G1), transcript variant 1, mRNA [NM_005175] |
| A.23.P259089   | down | -2.147 | -1.102 | 2.147 | AGPAT1       | Homo sapiens 1-acylglycerol-3-phosphate O-acyltransferase 1 (AGPAT1), transcript variant 1, mRNA [NM_008411]                               |
| A.19.P0022944  | down | -2.147 | -1.102 | 2.147 | SNHG5        | Homo sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5), long non-coding RNA [NM_0030388]                                |
| A.24.P183237   | down | -2.147 | -1.102 | 2.147 | STOX2        | Homo sapiens storkhead box 2 (STOX2), mRNA [NM_020223]   |
| A.22.P0001810  | down | -2.146 | -1.101 | 2.146 | IDH1-AS1     | Homo sapiens IDH1 antisense RNA 1 (IDH1-AS1), long non-coding RNA [NR_046452]  |
| A.33.P3424298  | down | -2.146 | -1.101 | 2.146 | CPS1         | Homo sapiens carbamoyl-phosphate synthase 1, mitochondrial (CPS1), transcript variant 2, mRNA [NM_0018175]                                 |
| A.23.P373687   | down | -2.145 | -1.101 | 2.145 | PUS10        | Homo sapiens pseudouridylate synthase 10 (PUS10), mRNA [NM_144709]   |
| A.22.P00019123 | down | -2.144 | -1.100 | 2.144 | SLC35E3      | Solute carrier family 35, member E3 [Source:HGNC Symbol;Acc:HGNC:20864] [ENS:00000398333]  |
| A.24.P403581   | down | -2.144 | -1.100 | 2.144 | LRP4         | Homo sapiens low density lipoprotein receptor-related protein 4 (LRP4), mRNA [NM_002284]   |
| A.23.P113317   | down | -2.144 | -1.100 | 2.144 | P-4FTM       | Homo sapiens prolyl 4-hydroxylase, transmembrane (endoplasmic reticulum) (P4FTM), transcript variant 3, mRNA [NM_177808]                   |
| A.32.P08719    | down | -2.144 | -1.100 | 2.144 | RAB40A       | Homo sapiens RAB40A, member RAS oncogene family-like (RAB40A), mRNA [NM_001031834]   |
| A.33.P3246883  | down | -2.144 | -1.100 | 2.144 | OXS1M        | Homo sapiens 9-oxoacyl-ACP synthase, mitochondrial (OXS1M), transcript variant 1, mRNA [NM_017893]   |
| A.22.P00001759 | down | -2.144 | -1.100 | 2.144 | LOC10111B-2  | LOC10111B2 (nc-ATP11B-2), lincRNA [nc-ATP11B-2-1]  |
| A.23.P02231    | down | -2.144 | -1.100 | 2.144 | EGCE2        | Homo sapiens ecdysterone converting enzyme 2 (EGCE2), transcript variant 3, mRNA [NM_022311]   |
| A.33.P3382426  | down | -2.144 | -1.100 | 2.144 | MED31        | Homo sapiens mediator complex, subunit 31 (MED31), mRNA [NM_016060]  |
| A.19.P00317178 | down | -2.143 | -1.100 | 2.143 | SNHG5        | Homo sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5), long non-coding RNA [NR_028828]                                 |
| A.23.P3330608  | down | -2.143 | -1.100 | 2.143 | PRAM1        | Homo sapiens PML-RARA regulated adaptor molecule 1 (PRAM1), mRNA [NM_032132]   |
| A.23.P100203   | down | -2.143 | -1.100 | 2.143 | HSPB1        | Homo sapiens heat shock factor binding protein 1 (HSPB1), mRNA [NM_001537]   |
| A.24.P166049   | down | -2.143 | -1.100 | 2.143 | SLC39A6      | Homo sapiens solute carrier family 39 (zinc transporter), member 6 (SLC39A6), transcript variant 1, mRNA [NM_012319]                       |
| A.23.P432610   | down | -2.143 | -1.099 | 2.143 | N4BP1        | Homo sapiens nucleolar binding protein 1 (N4BP1), mRNA [NM_153029]   |
| A.33.P357082   | down | -2.143 | -1.099 | 2.143 | METTL8       | Homo sapiens methyltransferase like 8 (METTL8), mRNA [NM_024770]   |
| A.33.P3573248  | down | -2.142 | -1.099 | 2.142 | AF3          | Homo sapiens methyltransferase like 8 (METTL8), mRNA [NM_024770]   |
| A.21.P0011743  | down | -2.141 | -1.098 | 2.141 | LINC00865    | Homo sapiens long intergenic non-protein coding RNA 66 (LINC00865), transcript variant 1, long non-coding RNA [NR_038278]                  |
| A.23.P101074   | down | -2.140 | -1.097 | 2.140 | CYP251       | Homo sapiens cytochrome P-450, family 2, subfamily 5, polypeptide 1 [Source:HGNC Symbol;Acc:HGNC:15654] [ENS:00000310054]                  |
| A.24.P207098   | down | -2.139 | -1.097 | 2.139 | ZNF230       | Homo sapiens zinc finger protein 230 (ZNF230), mRNA [NM_008300]  |
| A.19.P00308446 | down | -2.139 | -1.097 | 2.139 | UBA8-AS1     | Homo sapiens UBA8 antisense RNA 1 (head to head) (UBA8-AS1), long non-coding RNA [NR_016498]   |
| A.22.P00001757 | down | -2.139 | -1.097 | 2.139 | LOC228629    | Homo sapiens uncharacterized LOC228629, long non-coding RNA [NR_027111]  |
| A.23.P124855   | down | -2.139 | -1.097 | 2.139 | ZCCHC7       | Homo sapiens zinc finger, CCHC domain containing 7 (ZCCHC7), transcript variant 4, mRNA [NM_029226]  |
| A.23.P0372     | down | -2.139 | -1.097 | 2.139 | HOXA5        | Homo sapiens homeobox A5 (HOXA5), mRNA [NM_019109]   |
| A.23.P115865   | down | -2.138 | -1.096 | 2.138 | MINPP1       | Homo sapiens multiple inositol-polyphosphate phosphatase 1 (MINPP1), transcript variant 1, mRNA [NM_004897]                                |
| A.32.P105549   | down | -2.138 | -1.096 | 2.138 | ANKAHL1      | Homo sapiens annexin A8-like 1 (ANKAHL1), transcript variant 1, mRNA [NM_001098845]  |
| A.33.P3418945  | down | -2.138 | -1.096 | 2.138 | NCOA5        | Homo sapiens cDNA FLJ27214, clone SYN02152, AK130724   |
| A.33.P3270659  | down | -2.137 | -1.096 | 2.137 | RIPK1        | Homo sapiens receptor (TNFRSF)-interacting serine-threonine kinase 1 (RIPK1), mRNA [NM_003804]   |
| A.33.P326531   | down | -2.137 | -1.096 | 2.137 | GRAT         | Homo sapiens carnitine O-methyltransferase (GRAT), transcript variant 2, mRNA [NM_001257363]   |
| A.33.P330823   | down | -2.137 | -1.095 | 2.137 |              |  |
| A.24.P367421   | down | -2.137 | -1.095 | 2.137 | MM52L        | Homo sapiens MM52-like, DNA repair protein (MM52L), mRNA [NM_156458]   |
| A.32.P393114   | down | -2.136 | -1.095 | 2.136 | UMY1D2       | Homo sapiens UMY1 domain containing 2 (UMY1D2), mRNA [NM_173133]   |
| A.33.P3371059  | down | -2.136 | -1.095 | 2.136 | LOC648002    | Homo sapiens small nucleolar ribonucleoprotein protein NPPO10-like (LOC648002), mRNA [NM_001203030]  |
| A.24.P221988   | down | -2.135 | -1.094 | 2.135 | LINC01122    | Homo sapiens long intergenic non-protein coding RNA 1122 (LINC01122), long non-coding RNA [NR_033873]                                      |
| A.19.P00315681 | down | -2.135 | -1.094 | 2.135 | GGTLC1       | Homo sapiens gamma-glutamyltransferase light chain 1 (GGTLC1), transcript variant A, mRNA [NM_178311]                                      |
| A.21.P0012386  | down | -2.134 | -1.093 | 2.134 |              | long intergenic non-protein coding RNA 1376 [Source:HGNC Symbol;Acc:HGNC:50837] [ENS:00000424895]  |
| A.33.P3237467  | down | -2.134 | -1.093 | 2.134 | ZNF347       | Homo sapiens zinc finger protein 347 (ZNF347), transcript variant 1, mRNA [NM_001172674]   |
| A.33.P3241433  | down | -2.133 | -1.093 | 2.133 | NCOA5        | Homo sapiens nuclear receptor coactivator 5 (NCOA5), mRNA [NM_029367]  |
| A.23.P315843   | down | -2.133 | -1.093 | 2.133 | MORN2        | Homo sapiens MORN repeat containing 2 (MORN2), mRNA [NM_001145450]   |
| A.32.P08465    | down | -2.132 | -1.092 | 2.132 | GRZ2         | Homo sapiens crystallin, zeta (zeta-crystallin) (GRZ2), transcript variant 1, mRNA [NM_001190042]  |
| A.33.P3405743  | down | -2.132 | -1.092 | 2.132 | HIST1H4A     | Homo sapiens histone cluster 1, H4s (HIST1H4A), mRNA [NM_003538]   |
| A.33.P344229   | down | -2.131 | -1.092 | 2.131 | RNF207       | Homo sapiens zinc finger protein 207 (RNF207), mRNA [NM_020798]  |
| A.33.P304538   | down | -2.131 | -1.092 | 2.131 | FAN1         | Homo sapiens FANCD3/FANCG-associated nuclease 1 (FAN1), transcript variant 1, mRNA [NM_016977]   |
| A.23.P037888   | down | -2.131 | -1.092 | 2.131 | P4HA2        | Homo sapiens prolyl 4-hydroxylase, alpha polypeptide II (P4HA2), transcript variant 2, mRNA [NM_001011912]                                 |
| A.33.P3394933  | down | -2.131 | -1.092 | 2.131 | LRRC75A-AS1  | Homo sapiens LRRC75A antisense RNA 1 (LRRC75A-AS1), transcript variant 27, long non-coding RNA [NR_045094]                                 |
| A.22.P00018681 | down | -2.131 | -1.091 | 2.131 | ZMYM8        | Homo sapiens zinc finger, MYM-type 8 (ZMYM8), transcript variant 2, mRNA [NM_005046]   |
| A.23.P137073   | down | -2.131 | -1.091 | 2.131 |              | anocamin 2 pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:32248] [ENS:00000602346]  |
| A.21.P0014692  | down | -2.130 | -1.091 | 2.130 | LOC101927507 | Homo sapiens cDNA clone IMAGE4798188, [BC020759]   |
| A.33.P3374117  | down | -2.130 | -1.091 | 2.130 | nc-LRIG2-3   |  |
| A.22.P00009238 | down | -2.130 | -1.091 | 2.130 |              |  |

|                |        |        |       |      |                   |  |
|----------------|--------|--------|-------|------|-------------------|--|
| A.23.P17046    | -2.129 | -1.080 | 2.129 | down | SLOC25A29         | Homo sapiens solid carrier family 25 (mitochondrial carnitine acylcarnitine carrier), member 29 (SLOC25A29), transcript variant 1, mRNA [NM_001038385] |
| A.33.P328272   | -2.129 | -1.080 | 2.129 | down | BRD3              | tubulin coding cofactor D [Source:HGNC Symbols;HGNC:11581] [ENST00000571616]   |
| A.24.P32887    | -2.129 | -1.080 | 2.129 | down | BRD3              | Homo sapiens bromodomain containing 3 (BRD3), mRNA [NM_007371]   |
| A.24.P402082   | -2.128 | -1.080 | 2.128 | down | DANCR             | Homo sapiens differentiation antagonizing non-protein coding RNA (DANCR), long non-coding RNA [NR_024031]  |
| A.32.P231179   | -2.128 | -1.080 | 2.128 | down | TEKTA             | Homo sapiens tektin 4 (TEKTA), transcript variant 1, mRNA [NM_144705]  |
| A.24.P306443   | -2.128 | -1.089 | 2.128 | down | LOC100231156      | Homo sapiens tektin 4 pseudogene (LOC100231156), transcript variant 1, non-coding RNA [NR_037871]  |
| A.23.P370142   | -2.127 | -1.089 | 2.127 | down | PAFAH1B2          | Homo sapiens pleckstrin-activating factor acetylhydrolase 1b, catalytic subunit 2 (300kb) (PAFAH1B2), mRNA [NM_002972]                                 |
| A.33.P234824   | -2.127 | -1.089 | 2.127 | down | PAFAH1B2          | PAFAH1B2, mRNA [NM_002972]   |
| A.24.P256404   | -2.127 | -1.089 | 2.127 | down | LOC100193816      | SPRED1, mRNA [NM_003272]   |
| A.19.P00319095 | -2.127 | -1.089 | 2.127 | down | SNHG5             | Homo sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5), long non-coding RNA [NR_003088]   |
| A.24.P106357   | -2.127 | -1.088 | 2.127 | down | WD36B             | Homo sapiens WD repeat domain 36 (WD36B), mRNA [NM_139281]   |
| A.23.P202458   | -2.126 | -1.088 | 2.126 | down | ZNF22             | Homo sapiens zinc finger protein 22 (ZNF22), mRNA [NM_009963]  |
| A.24.P379512   | -2.126 | -1.088 | 2.126 | down | PIPK3             | Homo sapiens phosphatidylinositol 3-kinase, class K (PIPK3), mRNA [NM_004682]  |
| A.23.P13312    | -2.125 | -1.087 | 2.125 | down | DCPIB             | Homo sapiens desiccating protein 1B (DCPIB), mRNA [NM_152840]  |
| A.23.P11214    | -2.125 | -1.087 | 2.125 | down | NKRF1             | Homo sapiens NKRF repressing factor (NKRF), transcript variant 2, mRNA [NM_017544]   |
| A.24.P430802   | -2.124 | -1.087 | 2.124 | down | MORNA             | Homo sapiens MORN repeat containing 4 (MORNA), transcript variant 1, mRNA [NM_178882]  |
| A.24.P25326    | -2.124 | -1.087 | 2.124 | down | ZMYM6             | Homo sapiens zinc finger, MYM-type 6 (ZMYM6), mRNA [NM_007167]   |
| A.23.P151780   | -2.124 | -1.087 | 2.124 | down | COX14             | Homo sapiens COX14 cytochrome c oxidase assembly factor (COX14), transcript variant 1, mRNA [NM_029091]  |
| A.32.P3276     | -2.124 | -1.086 | 2.124 | down | ARI-GEF26         | Homo sapiens ribc guanine nucleotide exchange factor (GEF) 26 (ARI-GEF26), transcript variant 1, mRNA [NM_01291862]                                    |
| A.23.P40715    | -2.123 | -1.086 | 2.123 | down | DPF42B            | Homo sapiens phosphatidylinositol-5-phosphatase 4, lysase, type II, beta (PF42B), mRNA [NM_005593]   |
| A.23.P17128    | -2.123 | -1.086 | 2.123 | down | SLC38E3           | Homo sapiens SLC38 family, member 3 (SLC38E3), transcript variant 1, mRNA [NM_006066]  |
| A.24.P147128   | -2.123 | -1.086 | 2.123 | down | SLC38E3           | SLC38E3, mRNA [NM_006066]  |
| A.23.P244411   | -2.123 | -1.086 | 2.123 | down | ACGRN1            | Homo sapiens acyl-CoA:glycerol-3-phosphate acyltransferase 1 (ACGRN1), mRNA [NM_018576]  |
| A.33.P226443   | -2.123 | -1.086 | 2.123 | down | IMP2A2            | Homo sapiens inositol(1-phosphatase)-[or 4-phosphatase]ase 2 (IMP2A2), mRNA [NM_014214]  |
| A.22.P00017885 | -2.123 | -1.086 | 2.123 | down | inc-VAMP1-1       | LINC001284, lincRNA, linc-VAMP1-1, lincRNA, linc-VAMP1-1, lincRNA, linc-VAMP1-1 [L128335]  |
| A.22.P0004430  | -2.122 | -1.086 | 2.122 | down | ACN9              | Homo sapiens ACN9 homolog (S. cerevisiae) (ACN9), mRNA [NM_001186]   |
| A.33.P3265030  | -2.122 | -1.085 | 2.122 | down | GP1BB             | Homo sapiens glycoprotein Ib (GPIIb/IIIa), beta polypeptide (GP1BB), mRNA [NM_000407]  |
| A.33.P333777   | -2.121 | -1.085 | 2.121 | down | GABPR1-AS1        | Homo sapiens GABPR1 antisense RNA 1 (GABPR1-AS1), long non-coding RNA [NM_024490]  |
| A.24.P288527   | -2.121 | -1.085 | 2.121 | down | IFT22             | Homo sapiens intraflagellar transport 22 (IFT22), transcript variant 1, mRNA [NM_022777]   |
| A.33.P3407564  | -2.121 | -1.085 | 2.121 | down | LOC101927188      | LOC101927188, long non-coding RNA [NR_129845]  |
| A.22.P00009526 | -2.121 | -1.085 | 2.121 | down | RABL2A            | Homo sapiens RAB, member of RAS oncogene family-like 2A (RABL2A), transcript variant 1, mRNA [NM_034121]   |
| A.24.P250650   | -2.121 | -1.084 | 2.121 | down | NSL1              | Homo sapiens NSL1, MIS12 kinetochore complex component (NSL1), transcript variant 1, mRNA [NM_018471]  |
| A.24.P370970   | -2.120 | -1.084 | 2.120 | down | LOC101928609      | PREDIGED, Homo sapiens uncharacterized LOC101928609 (LOC101928609), mRNA [XR_246317]   |
| A.21.P0001124  | -2.120 | -1.084 | 2.120 | down | SYNE1             | Homo sapiens spectrin repeat containing nuclear envelope 1 (SYNE1), transcript variant 1, mRNA [NM_186166]   |
| A.23.P500861   | -2.120 | -1.084 | 2.120 | down | UGDH              | Homo sapiens UDP-glucose 6-dehydrogenase (UGDH), transcript variant 1, mRNA [NM_003350]  |
| A.33.P3368607  | -2.120 | -1.084 | 2.120 | down | CHTF8             | Homo sapiens CTF8 chromosome transmission fidelity factor 8 homolog (S. cerevisiae) (CHTF8), transcript variant 1, mRNA [NM_001038690]                 |
| A.21.P0019760  | -2.119 | -1.084 | 2.119 | down | inc-PEA1-I-1      | QZ2038.PAT.092038.SH3, domain binding protein, (GR16), partial (4), [CHC2569838]   |
| A.22.P00011719 | -2.119 | -1.083 | 2.119 | down | SORD              | serotinal dehydrogenase [Source:HGNC Symbols;HGNC:1184] [ENST00000287814]  |
| A.33.P3413483  | -2.119 | -1.083 | 2.119 | down | FAM178A           | Homo sapiens family with sequence similarity 178, member A (FAM178A), transcript variant 1, mRNA [NM_018121]   |
| A.23.P356139   | -2.118 | -1.083 | 2.118 | down | inc-C1orf201-3    | LINC001284, lincRNA, linc-C1orf201-3, lincRNA, linc-C1orf201-3, lincRNA, linc-C1orf201-3 [L128335]   |
| A.21.P0001481  | -2.116 | -1.082 | 2.116 | down | VEZF1             | Homo sapiens vascular endothelial zinc finger 1 (VEZF1), mRNA [NM_007146]  |
| A.21.P0017473  | -2.116 | -1.082 | 2.116 | down | ZNF792            | Homo sapiens zinc finger protein 792 (ZNF792), mRNA [NM_175872]  |
| A.23.P326718   | -2.116 | -1.081 | 2.116 | down | inc-SPAG5-1       | CD009859 Human CD34+ ES Ts from primary hematopoietic stem-progenitor cells Homo sapiens cDNA 3', mRNA, sequence [GD144209]                            |
| A.22.P00019251 | -2.115 | -1.080 | 2.115 | down | AASDHPPT          | Homo sapiens aminoacidate-semialdehyde dehydrogenase-phosphoaminoethyl transferase (AASDHPPT), mRNA [NM_015623]  |
| A.23.P202888   | -2.114 | -1.079 | 2.114 | down | FAM78B            | Homo sapiens family with sequence similarity 78, member B (FAM78B), mRNA [NM_144665]   |
| A.32.P19732    | -2.113 | -1.079 | 2.113 | down | PSPIP2            | Homo sapiens proline-serine-threonine phosphatase interacting protein 2 (PSPIP2), mRNA [NM_084426]   |
| A.24.P322583   | -2.113 | -1.078 | 2.113 | down | TMEM129           | Homo sapiens transmembrane protein 129, E3 ubiquitin protein ligase (TMEM129), transcript variant 2, cDNA [NM_138386]                                  |
| A.23.P354175   | -2.111 | -1.078 | 2.111 | down | RBM15B            | Homo sapiens RNA binding motif protein 15B (RBM15B), mRNA [NM_013286]  |
| A.24.P345181   | -2.111 | -1.078 | 2.111 | down | PPP1R16A          | Homo sapiens protein phosphatase 1, regulatory subunit 16A (PPP1R16A), mRNA [NM_032902]  |
| A.22.P0025650  | -2.110 | -1.078 | 2.110 | down | PARP3             | Homo sapiens poly (ADP-ribose) polymerase 1 (PARP1), mRNA [NM_001618]  |
| A.23.P157175   | -2.110 | -1.078 | 2.110 | down | inc-APOB322.5A1-1 | BX111389 Soares NIHhPpU_S1 Homo sapiens cDNA clone IMAGE598M(34748), mRNA, sequence [BX111389]   |
| A.33.P3260338  | -2.110 | -1.078 | 2.110 | down | MEK5              | Homo sapiens NIMA-related kinase 6 (MEK6), transcript variant 2, mRNA [NM_014397]  |
| A.22.P00022862 | -2.110 | -1.077 | 2.110 | down | PLEKHG4           | Homo sapiens pleckstrin homology domain containing, family G (with RhoGef domain) member 4 (PLEKHG4), transcript variant 3, mRNA [NM_00129728]         |
| A.23.P216820   | -2.110 | -1.077 | 2.110 | down | REPAP2            | Homo sapiens RNA polymerase II associated protein 2 (RPAP2), mRNA [NM_024813]  |
| A.33.P3302857  | -2.110 | -1.077 | 2.110 | down | REL               | Homo sapiens v-avl avian reiculoendotheliosis viral oncogene homolog (REL), transcript variant 1, mRNA [NM_002408]                                     |
| A.24.P482587   | -2.110 | -1.077 | 2.110 | down | MEITL21B          | Homo sapiens MEITL21B, transcript variant 2, mRNA [NM_120814]  |
| A.33.P3243897  | -2.109 | -1.076 | 2.109 | down | SELD10            | Homo sapiens SEL domain containing 10 (SELD10), transcript variant 2, mRNA [NM_024860]   |
| A.23.P326378   | -2.108 | -1.076 | 2.108 | down | LOC101892484      | Homo sapiens potassium channel tetramerization domain containing 15 (KCTD15), transcript variant 1, mRNA [NM_024076]                                   |
| A.21.P0011883  | -2.108 | -1.076 | 2.108 | down | CAVI              | Homo sapiens caveolin 1, caveolar protein, 22kDa (CAVI), transcript variant 1, mRNA [NM_0011753]   |
| A.22.P00012044 | -2.107 | -1.075 | 2.107 | down | inc-PPA2-1        | Homo sapiens cDNA clone IMAGE43091178, **** WARNING, chimeric clone ****, [BC014023]   |
| A.24.P373844   | -2.107 | -1.075 | 2.107 | down |                   |  |
| A.23.P134454   | -2.107 | -1.075 | 2.107 | down |                   |  |
| A.19.P00808320 | -2.106 | -1.074 | 2.106 | down |                   |  |

|                |      |        |        |       |                 |   |
|----------------|------|--------|--------|-------|-----------------|---|
| A.33.P3237634  | down | -2.106 | -1.074 | 2.106 | TS22ZD3         | Homo sapiens TS22Z domain family, member 3 (TS22ZD3), transcript variant 2, mRNA [NM_004008]  |
| A.23.P300298   | down | -2.105 | -1.074 | 2.105 | AQL             | Homo sapiens amylo-alpha-1, 6-galactosylase, 4-alpha-galactosyltransferase (AQL), transcript variant 4, mRNA [NM_000029]            |
| A.23.P215214   | down | -2.105 | -1.074 | 2.105 | LMBR1           | Homo sapiens limb development membrane protein 1 (LMBR1), mRNA [NM_022455]  |
| A.33.P3435386  | down | -2.105 | -1.073 | 2.105 | FAM83G          | Homo sapiens family with sequence similarity 81, member G (Source:HGNC Symbol;Acc:HGNC:32454) [ENS:00000389595]                     |
| A.33.P39379459 | down | -2.104 | -1.073 | 2.104 | CHST12          | Homo sapiens carbohydrate (chondroitin 4) sulfotransferase 12 (CHST12), transcript variant 3, mRNA [NM_018641]                      |
| A.23.P25757    | down | -2.104 | -1.073 | 2.104 | TMEM117         | Homo sapiens transmembrane protein 117 (TMEM117), transcript variant 1, mRNA [NM_032256]  |
| A.33.P323145   | down | -2.104 | -1.073 | 2.104 | ZNF493          | Homo sapiens zinc finger protein 493 (ZNF493), transcript variant 1, mRNA [NM_139458]   |
| A.23.P323145   | down | -2.103 | -1.072 | 2.103 | linc-CHADL-2    | linc-CHADL-2, transcript variant 1, mRNA [NM_051213]  |
| A.23.P323145   | down | -2.102 | -1.072 | 2.102 | GAT1            | Homo sapiens galactose 4-epimerase 1 (GAT1), mRNA [NM_051213]   |
| A.24.P493686   | down | -2.102 | -1.072 | 2.102 | MMACHC          | Homo sapiens methylmalonic aciduria (cobalamin deficiency) cblC type, with homocystathiona (MMACHC) mRNA [NM_015560]                |
| A.33.P3232587  | down | -2.102 | -1.071 | 2.102 | LOC100127304    | Homo sapiens cDNA clone IMAGE3043352, partial cds. [BC085139]   |
| A.22.P00002696 | down | -2.102 | -1.071 | 2.102 | linc-56erf21-2  | linc-56erf21-2, transcript variant 1, mRNA [NM_023187]  |
| A.24.P344807   | down | -2.101 | -1.071 | 2.101 | LPCAT2          | Homo sapiens lysophosphatidylcholine acyltransferase 2 (LPCAT2), mRNA [NM_017630]   |
| A.23.P184208   | down | -2.101 | -1.071 | 2.101 | MA3K            | Homo sapiens N-acetylglucosaminase kinase (MA3K), mRNA [NM_017557]  |
| A.24.P402719   | down | -2.100 | -1.070 | 2.100 | P-APP3          | Homo sapiens poly (ADP-ribose) polymerase family, member 3 (P-APP3), transcript variant 2, mRNA [NM_005485]                         |
| A.22.P00001173 | down | -2.100 | -1.070 | 2.100 | LOC100606803    | Homo sapiens uncharacterized LOC100606803 (LOC100606803), transcript variant 2, long non-coding RNA [NR_104184]                     |
| A.23.P24903    | down | -2.100 | -1.070 | 2.100 | P-PRY2          | Homo sapiens purinergic receptor P2Y, G-protein coupled, 2 (P-PRY2), transcript variant 1, mRNA [NM_176072]                         |
| A.23.P105019   | down | -2.100 | -1.070 | 2.100 | TMEM118         | Homo sapiens transmembrane protein 118 (TMEM118), transcript variant 3, mRNA [NM_139241]  |
| A.19.P00318019 | down | -2.098 | -1.069 | 2.098 | SNHG5           | Homo sapiens small nucleolar RNA host gene 5 (non-protein coding) (SNHG5), long non-coding RNA [NR_030359]                          |
| A.23.P171056   | down | -2.098 | -1.069 | 2.098 | USP27X          | Homo sapiens ubiquitin specific peptidase 27, X-linked (USP27X), mRNA [NM_08114933]   |
| A.24.P402686   | down | -2.098 | -1.069 | 2.098 | ZNF550          | Homo sapiens zinc finger protein 550 (ZNF550), transcript variant 1, mRNA [NM_001193552]  |
| A.22.P00011609 | down | -2.098 | -1.069 | 2.098 | LOC101949066    | Homo sapiens uncharacterized LOC101949066 (LOC101949066), transcript variant 2, long non-coding RNA [NR_125430]                     |
| A.23.P80200    | down | -2.097 | -1.069 | 2.097 | LRRRC74B        | Homo sapiens leucine rich repeat containing 74B (LRRRC74B), transcript variant 1, mRNA [NM_001291006]                               |
| A.24.P464528   | down | -2.097 | -1.068 | 2.097 | CHMP3           | Homo sapiens charged multivesicular body protein 3 (CHMP3), transcript variant 1, mRNA [NM_018079]                                  |
| A.23.P181837   | down | -2.095 | -1.067 | 2.095 | ATF5            | Homo sapiens activating transcription factor 5 (ATF5), transcript variant 1, mRNA [NM_012068]                                       |
| A.33.P323726   | down | -2.095 | -1.067 | 2.095 | CCDC108         | Homo sapiens coiled-coil domain containing 108 (CCDC108), mRNA [NM_013301]  |
| A.24.P404447   | down | -2.094 | -1.066 | 2.094 | ZNF506          | Homo sapiens zinc finger protein 506 (Source:HGNC Symbol;Acc:HGNC:23789) [ENS:00000443905]  |
| A.19.P00321183 | down | -2.094 | -1.066 | 2.094 | linc-LRCP-4     | Homo sapiens long intergenic non-protein coding RNA 1598 (LINCO1598), long non-coding RNA [NR_109795]                               |
| A.21.P0000886  | down | -2.094 | -1.066 | 2.094 | LINC01508       | Homo sapiens long intergenic non-protein coding RNA 1598 (LINCO1598), long non-coding RNA [NR_109795]                               |
| A.22.P00001875 | down | -2.094 | -1.066 | 2.094 | LOC100419583    | Homo sapiens zinc finger protein 4, pseudogene (LOC100419583, non-coding RNA [NR_123376]  |
| A.33.P3226439  | down | -2.094 | -1.066 | 2.094 | GLDR            | Homo sapiens globosoma down-regulated RNA (GLDR), transcript variant 4, long non-coding RNA [NR_120406]                             |
| A.32.P118250   | down | -2.093 | -1.066 | 2.093 | DHRSA-AS1       | Homo sapiens DHRSA antisense RNA 1 (DHRSA-AS1), transcript variant 1, long non-coding RNA [NR_023282]                               |
| A.23.P46628    | down | -2.093 | -1.065 | 2.093 | ZBTB25          | Homo sapiens zinc finger and BTB domain containing 25 (ZBTB25), mRNA [NM_008877]  |
| A.23.P22119    | down | -2.092 | -1.065 | 2.092 | PLECO           | Homo sapiens pleckstrin (PLECO), transcript variant 6, mRNA [NM_201360]   |
| A.20.P00031065 | down | -2.092 | -1.065 | 2.092 | RNF126          | Homo sapiens ring finger protein 126, E3 ubiquitin protein ligase (RNF126), mRNA [NM_017883]  |
| A.23.P14124    | down | -2.092 | -1.065 | 2.092 | RASL1A          | Homo sapiens RAS-like family 11, member A (RASL1A), mRNA [NM_209827]  |
| A.23.P123816   | down | -2.091 | -1.064 | 2.091 | LRSAM1          | Homo sapiens leucine rich repeat and sterile alpha motif containing 1 (LRSAM1), transcript variant 1, mRNA [NM_138381]              |
| A.33.P3263012  | down | -2.091 | -1.064 | 2.091 | PRPF19          | Homo sapiens pre-mRNA processing factor 19 (PRPF19), mRNA [NM_014402]   |
| A.22.P00013892 | down | -2.090 | -1.064 | 2.090 | linc-RUNDC3A-1  | AGENCOURT 8824882 NH.MGC.18 Homo sapiens cDNA clone IMAGE642382 5, mRNA sequence [BQ543064]   |
| A.32.P187683   | down | -2.090 | -1.063 | 2.090 | ZNF596          | Homo sapiens zinc finger protein 596 (ZNF596), transcript variant 1, mRNA [NM_001042416]  |
| A.21.P0019501  | down | -2.090 | -1.063 | 2.090 | XL00214331      | BROAD Institute lincRNA (XL00214331), lincRNA [TC00512_0027964]   |
| A.23.P50846    | down | -2.089 | -1.063 | 2.089 | PINLYP          | Homo sapiens phospholipase A2 inhibitor and L16/PLAUR domain containing (PINLYP), transcript variant 1, mRNA [NM_001193957]         |
| A.33.P3214056  | down | -2.088 | -1.062 | 2.088 | LINC00869       | Homo sapiens long intergenic non-protein coding RNA 869 (LINC00869), transcript variant 8, long non-coding RNA [NR_111625]          |
| A.24.P802671   | down | -2.088 | -1.062 | 2.088 | SNAD5           | Homo sapiens sterile alpha motif domain containing 5 (SNAD5), mRNA [NM_001039369]   |
| A.24.P241260   | down | -2.087 | -1.061 | 2.087 | NMRK3           | Homo sapiens zinc finger protein 343 (ZNF343), transcript variant 1, mRNA [NM_00117884]   |
| A.24.P21602    | down | -2.087 | -1.061 | 2.087 | ZNF534          | Homo sapiens zinc finger protein 534 (ZNF534), transcript variant 1, mRNA [NM_030550]   |
| A.21.P0001460  | down | -2.086 | -1.061 | 2.086 | linc-Glerf201-2 | linc-Glerf201-2, lincRNA [linc-Glerf201-2]  |
| A.33.P3337831  | down | -2.086 | -1.061 | 2.086 | GCT5            | Homo sapiens chaperonin containing TCP1, subunit 5 (GCT5), mRNA [NM_012073]   |
| A.24.P328272   | down | -2.085 | -1.060 | 2.085 | LNPI1           | Homo sapiens leukemia NUP98 fusion partner 1 (LNPI1), mRNA [NM_001058451]   |
| A.33.P321729   | down | -2.085 | -1.060 | 2.085 | USP7            | Homo sapiens ubiquitin specific peptidase 7 (hepato virus-associated) (USP7), transcript variant 3, mRNA [NM_001286458]             |
| A.24.P245108   | down | -2.085 | -1.060 | 2.085 | C2orf43         | Homo sapiens chromosome 2 open reading frame 43 (C2orf43), transcript variant 1, mRNA [NM_021925]                                   |
| A.23.P402656   | down | -2.084 | -1.060 | 2.084 | GALNT11         | Homo sapiens polypeptide N-acetylglucosaminyltransferase 11 (GALNT11), mRNA [NM_022087]   |
| A.23.P341416   | down | -2.084 | -1.059 | 2.084 | LEO1            | Homo sapiens Leo1, Paf1/RNA polymerase II complex component, homolog (S. cerevisiae) (LEO1), transcript variant 1, mRNA [NM_138782] |
| A.23.P3104222  | down | -2.083 | -1.059 | 2.083 | NDE1            | Homo sapiens nucleoside diphosphate kinase 1 (NDE1), transcript variant 2, mRNA [NM_017668]   |
| A.24.P210075   | down | -2.082 | -1.058 | 2.082 | OR7EP           | Homo sapiens olfactory receptor family 7, subfamily E, member 5 pseudogene (OR7EP), non-coding RNA [NR_027080]                      |
| A.23.P408830   | down | -2.082 | -1.058 | 2.082 | linc-RASA1-3    | linc-RASA1-3, lincRNA [linc-RASA1-3]  |
| A.21.P0004518  | down | -2.082 | -1.058 | 2.082 | SNZ7            | Homo sapiens serpin family 7 (SNZ7), transcript variant 1, mRNA [NM_011827]   |
| A.23.P240202   | down | -2.081 | -1.057 | 2.081 | AADAOP1         | epidectamide desethylase pseudogene 1 [Source:HGNC Symbol;Acc:HGNC:60365] [ENS:00000462937]   |
| A.21.P0012506  | down | -2.081 | -1.057 | 2.081 | RBMZ2-AS1       | Homo sapiens RBMZ2 antisense RNA 1 (RBMZ2-AS1), long non-coding RNA [NR_038991]   |
| A.24.P160104   | down | -2.081 | -1.057 | 2.081 | TUBA8           | Homo sapiens tubulin, alpha 8 (TUBA8), transcript variant 1, mRNA [NM_018943]   |



|                 |      |        |       |                      |   |
|-----------------|------|--------|-------|----------------------|---|
| A.33.P323110    | down | -1.039 | 2.055 | SOX13                | Homo sapiens SRY (sex determining region Y)-box 13 (SOX13), mRNA [NM_005688]  |
| A.24.P190877    | down | -1.039 | 2.055 | TRMT1L               | Homo sapiens tRNA methyltransferase 1 homolog (S. cerevisiae)-like (TRMT1L), transcript variant 1, mRNA [NM_030934]   |
| A.24.P937855    | down | -1.039 | 2.055 | SIKE1                | Homo sapiens suppressor of IKKBE 1 (SIKE1), transcript variant 1, mRNA [NM_001102398]   |
| A.21.P0004289   | down | -1.039 | 2.055 | INC-RP11-43D2.2-1-10 | LONGSIGHT lincRNA, (inc-RP11-43D2.2-1-10), lincRNA [nc-RP11-43D2.2-1-10]  |
| A.23.P75509     | down | -1.039 | 2.054 | CEP164               | Homo sapiens centrosomal protein 164Da (CEP164), transcript variant 1, mRNA [NM_014956]   |
| A.23.P935317    | down | -1.039 | 2.054 | ZXDC                 | Homo sapiens ZX domain zinc finger C (ZXDC), transcript variant 1, mRNA [NM_025112]   |
| A.24.P398276    | down | -1.039 | 2.054 | SLCO3A1              | Homo sapiens solute carrier organic anion transporter family, member 3A (SLCO3A1), transcript variant 1, mRNA [NM_013272]   |
| A.21.P0072252   | down | -1.039 | 2.054 | UBIPL1               | Ubilin alpha 3g, ribulobins (Source:HGNC Symbol;Acc:HGNC:4496) [ENS:0009941020]   |
| A.20.P0001844   | down | -1.038 | 2.053 | INC-RRR1B-2          | Homo sapiens splicing factor 3b, subunit 2, isoform 2 (SF3B2), transcript variant 2, mRNA [NM_024176]   |
| A.22.P00015730  | down | -1.038 | 2.053 | SEZ7                 | Homo sapiens seizure susceptibility 7 homolog (SEZ7), mRNA [NM_012629]  |
| A.22.P00021933  | down | -1.038 | 2.053 | P4HA2                | Homo sapiens prolyl 4-hydroxylase, alpha polypeptide 1 (P4HA2), transcript variant 1, mRNA [NM_004193]  |
| A.23.P215024    | down | -1.037 | 2.052 | SP140L               | Homo sapiens leucine rich repeat containing 1 (LRRRC1), mRNA [NM_018214]  |
| A.23.P373753    | down | -1.037 | 2.052 | WDRA1                | Homo sapiens SP140 nuclear body protein-like (SP140L), mRNA [NM_138402]   |
| A.23.P269521    | down | -1.037 | 2.052 | WDRA1                | Homo sapiens WD repeat domain 41 (WDRA1), mRNA [NM_018268]  |
| A.23.P01960     | down | -1.037 | 2.052 | ATP9B2               | Homo sapiens ATPase, H+ transporting V0 subunit, e2 (ATP9B2), transcript variant 1, mRNA [NM_145230]  |
| A.33.P3920940   | down | -1.037 | 2.051 | DTX2                 | Homo sapiens detox 2, E3 ubiquitin ligase (DTX2), transcript variant 1, mRNA [NM_020892]  |
| A.23.P130482    | down | -1.037 | 2.051 | ZNF211               | Homo sapiens zinc finger protein 211 (ZNF211), transcript variant 2, mRNA [NM_198895]   |
| A.33.P398117    | down | -1.036 | 2.050 | BEER1                | Homo sapiens retention in endoplasmic reticulum sorting receptor 1 (BEER1), mRNA [NM_007033]  |
| A.23.P61371     | down | -1.036 | 2.050 | TMEM73               | Homo sapiens transmembrane protein 73 (TMEM73), transcript variant 1, mRNA [NM_198282]  |
| A.24.P12413     | down | -1.036 | 2.050 | TRAM2                | Homo sapiens translocation associated membrane protein 2 (TRAM2), mRNA [NM_012288]  |
| A.19.P00321089  | down | -1.035 | 2.050 | LINC00963            | long intergenic non-protein coding RNA 963 (Source:HGNC Symbol;Acc:HGNC:48716)  |
| A.24.P98426     | down | -1.035 | 2.049 | AFQM                 | Homo sapiens apolipoprotein M (APOM), transcript variant 1, mRNA [NM_019101]  |
| A.23.P149206    | down | -1.049 | 2.049 | B4GALT2              | Homo sapiens UDP-glucalase 2, alpha 1,4-galactosyltransferase, polypeptide 2 (B4GALT2), transcript variant 1, mRNA [NM_003780]                                      |
| A.33.P326444    | down | -1.035 | 2.049 | MPS25                | Homo sapiens myotubularin 2 (MPS25), transcript variant 2, mRNA [NM_022487]   |
| A.33.P337540    | down | -1.035 | 2.049 | IFNA2                | Homo sapiens interferon (alpha, beta and omega) receptor 2 (IFNA2), transcript variant 2, mRNA [NM_008741]  |
| A.22.P00008379  | down | -1.034 | 2.048 | ENS10000060251       | long intergenic non-protein coding RNA 1184 (Source:HGNC Symbol;Acc:HGNC:49545)   |
| A.21.P0000153   | down | -1.034 | 2.047 | NR3C1                | Homo sapiens nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor) (NR3C1), transcript variant 8, mRNA [NM_001204265]                           |
| A.24.P22981     | down | -1.033 | 2.047 | ZNF293               | Homo sapiens zinc finger protein 293 (ZNF293), mRNA [NM_021047]   |
| A.23.P21182     | down | -1.032 | 2.045 | TCF12D2              | Homo sapiens Tcf12 domain containing 2 (TCF12D2), mRNA [NM_192733]  |
| A.23.P06171     | down | -1.032 | 2.045 | ACADM                | Homo sapiens acyl-CoA dehydrogenase, C-4 to C-12 straight chain (ACADM), transcript variant 1, mRNA [NM_000106]   |
| A.24.P275228    | down | -1.032 | 2.044 | PGAP3                | Homo sapiens post-GPI attachment to proteins 3 (PGAP3), transcript variant 1, mRNA [NM_033419]  |
| A.23.P71300     | down | -1.031 | 2.044 | CCDC25               | Homo sapiens coiled-coil domain containing 25 (CCDC25), mRNA [NM_018246]  |
| A.33.P321447    | down | -1.031 | 2.044 | ITGA5                | Homo sapiens integrin, alpha 5 (ITGA5), transcript variant 2, mRNA [NM_002010]  |
| A.22.P0001001   | down | -1.031 | 2.044 | INC-AL35888-1-1      | IT174 HUMAN (G1739) DRTL partial cDNA (ITG2714676)  |
| A.33.P27235     | down | -1.031 | 2.043 | ZNF251               | Homo sapiens MORC2 and MORC1 domain containing 251 (ZNF251), non-coding RNA [NR_026303]   |
| A.21.P0002628   | down | -1.031 | 2.043 | SNORD222             | Homo sapiens small nucleolar RNA 222 (SNORD222), small nucleolar RNA [NR_020048]  |
| A.23.P403398    | down | -1.031 | 2.043 | DKFZP588I1420        | Homo sapiens uncharacterized protein DKFZP588I1420 (DKFZP588I1420), non-coding RNA [NR_002188]  |
| A.23.P329794    | down | -1.030 | 2.042 | PTMA                 | Homo sapiens ornithine decarboxylase, class W (PTMA), mRNA [NM_178517]  |
| A.24.P542275    | down | -1.030 | 2.042 | PTMA                 | Homo sapiens ornithine decarboxylase, class W (PTMA), transcript variant 2, mRNA [NM_002823]  |
| A.22.P00008679  | down | -1.030 | 2.042 | inc-miRNI-1          | ALU8 HUMAN (P9195) Alu subfamily SX sequence contamination warning entry partial (14%) [THC2573718]   |
| A.32.P001773    | down | -1.030 | 2.041 | AMMECR1              | Homo sapiens Alport syndrome, mental retardation, midface hypoplasia and elliptocytosis chromosomal region gene 1 (AMMECR1), transcript variant 1, mRNA [NM_015895] |
| A.23.P211973    | down | -1.029 | 2.041 | NEK11                | Homo sapiens NIMA-related kinase 11 (NEK11), transcript variant 1, mRNA [NM_024800]   |
| A.23.P501435    | down | -1.029 | 2.041 | CSRP2BP              | Homo sapiens CSRP2 binding protein (CSRP2BP), transcript variant 1, mRNA [NM_020536]  |
| A.22.P00004317  | down | -1.029 | 2.040 | P-MSD5-AS1           | Homo sapiens PMSD9 antisense RNA 1 (head to head) (PMSD5-AS1), long non-coding RNA [NR_024408]  |
| A.33.P377996    | down | -1.029 | 2.040 | PRKACB               | Homo sapiens protein kinase, cAMP-dependent, catalytic, beta (PRKACB), transcript variant 7, mRNA [NM_001242890]  |
| A.23.P83159     | down | -1.028 | 2.040 | KLHL9                | Homo sapiens ketch-like family member 9 (KLHL9), mRNA [NM_018847]   |
| A.24.P291588    | down | -1.028 | 2.039 | MTAP                 | Homo sapiens proto-3-hydroxylase 1 (3PH1), transcript variant 1, mRNA [NM_023266]   |
| A.23.P212582    | down | -1.027 | 2.038 | TELLYR1              | Homo sapiens telodactyl-like Y-linked 1 (TELLYR1), mRNA [NM_024231]   |
| A.23.P186019    | down | -1.026 | 2.037 | ZKSCAN3              | Homo sapiens zinc finger with RRAB and SOAN domains 3 (ZKSCAN3), transcript variant 2, mRNA [NM_024933]   |
| A.22.P00003269  | down | -1.026 | 2.037 | HOXB-AS1             | Homo sapiens HOXB cluster antisense RNA 1 (HOXB-AS1), long non-coding RNA [NR_102276]   |
| A.32.P151833    | down | -1.026 | 2.037 | FECH                 | Homo sapiens ferredoxinase (FECH), transcript variant 1, mRNA [NM_001021515]  |
| A.22.P000006845 | down | -1.026 | 2.036 | PRKCO-AS1            | Homo sapiens PRKCO antisense RNA 1 (PRKCO-AS1), transcript variant 1, long non-coding RNA [NR_038502]   |
| A.21.P0000970   | down | -1.026 | 2.036 | PIN5P2-AS1           | Homo sapiens PIN5B2 antisense RNA 1 (head to head) (PIN5B2-AS1), transcript variant 3, long non-coding RNA [NR_037161]  |
| A.33.P3292890   | down | -1.026 | 2.036 | C1orf48              | Homo sapiens chromosome 11 open reading frame 49 (C1orf48), transcript variant 4, mRNA [NM_001005878]   |
| A.32.P325287    | down | -1.025 | 2.036 | YTHDC1               | Homo sapiens YTH domain containing 1 (YTHDC1), transcript variant 1, mRNA [NM_001031792]  |
| A.33.P3949875   | down | -1.025 | 2.035 | inc-AC010745.1-2     | Homo sapiens cDNA FLJ3894 tss, clone TRAC2033450, JAK39393  |
| A.21.P0000556   | down | -1.025 | 2.035 | LINC00883            | Homo sapiens long intergenic non-protein coding RNA 888 (LINC00888), transcript variant 1, long non-coding RNA [NR_028301]  |
| A.23.P73493     | down | -1.025 | 2.035 | CE2N2                | Homo sapiens centran, E2-hand, protein, 2 (CE2N2), mRNA [NM_004344]   |
| A.21.P0011065   | down | -1.025 | 2.035 | ANKZF1               | Homo sapiens ankyrin family member 1 (ANKZF1), non-coding RNA [NR_026903]   |
| A.23.P98330     | down | -1.024 | 2.034 | BRIC3                | Homo sapiens baculovirus IAP repeat containing 3 (BRIC3), transcript variant 1, mRNA [NM_0011165]   |
| A.23.P204735    | down | -1.024 | 2.034 | LPAR5                | Homo sapiens lysophosphatidic acid receptor 5 (LPAR5), transcript variant 1, mRNA [NM_020400]   |
| A.32.P174365    | down | -1.024 | 2.034 | SATB2                | Homo sapiens SATB homeobox 2 (SATB2), transcript variant 2, mRNA [NM_015265]  |
| A.23.P202345    | down | -1.023 | 2.033 | ADO                  | Homo sapiens 2-aminoethanethiol (cysteamine) dioxygenase (ADO), mRNA [NM_032804]  |



|                |        |        |       |      |               |  |
|----------------|--------|--------|-------|------|---------------|--|
| A_23_P211232   | -2.001 | -1.022 | 2.031 | down | LSS           | Homo sapiens laminosterol synthase (2,2'-oxidoqualene-lanosterol cyclase) (LSS), transcript variant 2, mRNA [NM_001001438]                                   |
| A_24_P110789   | -2.030 | -1.022 | 2.030 | down | LSS           | Homo sapiens laminosterol synthase (2,2'-oxidoqualene-lanosterol cyclase) (LSS), transcript variant 1, mRNA [NM_002340]                                      |
| A_23_P320530   | -2.030 | -1.022 | 2.030 | down | ZNF780A       | Homo sapiens zinc finger protein 780A (ZNF780A), transcript variant 2, mRNA [NM_001010880]   |
| A_24_P18214    | -2.030 | -1.021 | 2.030 | down | LINC00965     | long intergenic non-protein coding RNA 665 [Source:HGNC Symbol;Acc:HGNC:44323] [ENS:00000497868]   |
| A_33_P3230594  | -2.029 | -1.021 | 2.029 | down | LOC100607547  | Homo sapiens uncharacterized LOC100607547 (LOC100607547), transcript variant 1, long non-coding RNA [NC_021169]  |
| A_23_P256388   | -2.028 | -1.020 | 2.028 | down | MANBA         | Homo sapiens mannosidase, beta A, lysosomal (MANBA), mRNA [NM_005693]  |
| A_23_P256389   | -2.028 | -1.020 | 2.028 | down | MANBA         | Homo sapiens uncharacterized LOC103191831 (MANBA), mRNA [NM_001001833]   |
| A_23_P426140   | -2.028 | -1.020 | 2.028 | down | SLC22A3       | Homo sapiens solute carrier family 22, member 3 (SLC22A3), transcript variant 1, mRNA [NM_004068]  |
| A_23_P320530   | -2.028 | -1.020 | 2.028 | down | TMEM161A      | Homo sapiens tetraspanin 161A (TMEM161A), transcript variant 1, mRNA [NM_00107814]   |
| A_23_P313183   | -2.028 | -1.020 | 2.028 | down | EXT2          | Homo sapiens extensin glucosyltransferase 2 (EXT2), transcript variant 1, mRNA [NM_008401]   |
| A_33_P3251963  | -2.027 | -1.019 | 2.027 | down | RNF126        | Homo sapiens zinc finger protein 126, E3 ubiquitin protein ligase (RNF126), mRNA [NM_0173831]  |
| A_23_P103433   | -2.027 | -1.019 | 2.027 | down | OSGP1         | Homo sapiens ornithine decarboxylase carrier partner 1 (OSGP1), transcript variant 1, mRNA [NM_145647]   |
| A_21_P0013382  | -2.027 | -1.019 | 2.027 | down | C10orf32      | Homo sapiens chromosome 10 open reading frame 32 (C10orf32), transcript variant 2, mRNA [NM_144591]  |
| A_23_P305140   | -2.026 | -1.019 | 2.026 | down | DNAJC4        | Homo sapiens DnaJ (Hsp40) homolog, subfamily C, member 4 (DNAJC4), mRNA [NM_005528]  |
| A_23_P202189   | -2.026 | -1.018 | 2.026 | down | B3GNT4        | Homo sapiens UDP-GlcNAc 6-epimerase 1-3-N-acetylglucosaminyltransferase 4 (B3GNT4), mRNA [NM_037655]   |
| A_23_P176071   | -2.026 | -1.018 | 2.026 | down | JRK           | Homo sapiens JAK homolog (mouse) (JRK), transcript variant 1, mRNA [NM_003724]   |
| A_23_P17955    | -2.025 | -1.018 | 2.025 | down | FBLX2         | Homo sapiens F-box and leucine-rich repeat protein 2 (FBLX2), transcript variant 1, mRNA [NM_012157]   |
| A_23_P308150   | -2.024 | -1.018 | 2.024 | down | AMER1         | Homo sapiens APC membrane-associated protein 1 (AMER1), mRNA [NM_154424]   |
| A_24_P228067   | -2.023 | -1.017 | 2.023 | down | RNF140        | Homo sapiens mitochondrial ribosome protein L40 (RNF140), mRNA [NM_031776]   |
| A_21_P0023265  | -2.022 | -1.016 | 2.022 | down | INC-CZGR2/B-3 | Homo sapiens lincRNA (inc-CZGR2/B-3), lincRNA [NC_024273-3]  |
| A_33_P3256113  | -2.022 | -1.016 | 2.022 | down | GUSBP1        | NR 0219261   glucuronidase, beta pseudogene 1 (GUSBP1), transcript variant 1, non-coding RNA [NR_0219261]  |
| A_23_P431100   | -2.022 | -1.016 | 2.022 | down | ZHX1          | Homo sapiens zinc fingers and homeobox 1 (ZHX1), transcript variant 1, mRNA [NM_001017926]   |
| A_23_P308100   | -2.022 | -1.016 | 2.022 | down | SCDC92        | Homo sapiens coiled-coil domain containing 92 (SCDC92), mRNA [NM_025140]   |
| A_24_P308147   | -2.021 | -1.015 | 2.021 | down | NEBL          | Homo sapiens nebulette (NEBL), transcript variant 1, mRNA [NM_008383]  |
| A_23_P408376   | -2.021 | -1.015 | 2.021 | down | HSPA2A        | Homo sapiens heat shock 70kDa protein 2A (HSPA2A), mRNA [NM_025019]  |
| A_23_P115366   | -2.020 | -1.014 | 2.020 | down | OMPK1         | Homo sapiens cytidine monophosphate (UMP-CMP) kinase 1, cytosolic (OMPK1), transcript variant 1, mRNA [NM_016308]  |
| A_24_P84167    | -2.019 | -1.014 | 2.019 | down | PTGS1         | Homo sapiens prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase) (PTGS1), transcript variant 1, mRNA [NM_000982]           |
| A_24_P242866   | -2.019 | -1.014 | 2.019 | down | SMARD1        | Homo sapiens SMN2-related, matrix-associated, actin dependent regulator of chromatin, subfamily d, member 1 (SMARD1), transcript variant 2, mRNA [NM_190711] |
| A_19_P00313689 | -2.019 | -1.013 | 2.019 | down | INC-DTT1-1    | lincRNA (inc-DTT1-1), lincRNA [nc-DTT1H-13]  |
| A_21_P0051067  | -2.019 | -1.013 | 2.019 | down | ZNF837        | Homo sapiens zinc finger protein 837 (ZNF837), transcript variant 2, mRNA [NM_136468]  |
| A_33_P3411427  | -2.017 | -1.013 | 2.017 | down | SNORA19       | Homo sapiens small nucleolar RNA, HACA box 19 (SNORA19), small nucleolar RNA [NR_0292917]  |
| A_21_P0030289  | -2.017 | -1.012 | 2.017 | down | LOC100294568  | lincRNA (inc-LOC100294568), lincRNA [NR_0294568]   |
| A_22_P00312071 | -2.016 | -1.012 | 2.016 | down | INC-NRIP2-1   | lincRNA (inc-NRIP2-1), lincRNA [NR_0294568]  |
| A_23_P911300   | -2.016 | -1.011 | 2.016 | down | GP-CPD1       | Homo sapiens glycoprotein phosphatidylesterase GDE1 homolog (S. cerevisiae) (GP-CPD1), mRNA [NM_016930]  |
| A_23_P143368   | -2.015 | -1.011 | 2.015 | down | DGCR8L        | Homo sapiens DGCR8 spondone critical region, gene 8-like (DGCR8L), mRNA [NM_032327]  |
| A_32_P46525    | -2.015 | -1.011 | 2.015 | down | TCAF1         | Homo sapiens family with sequence similarity 115, member A (FAM115A), transcript variant 1, mRNA [NM_014719]   |
| A_23_P46281    | -2.015 | -1.011 | 2.015 | down | TCFANC2       | Homo sapiens transcription elongation factor A (SIF) N-terminal and central domain containing 2 (TCFANC2), mRNA [NM_153035]                                  |
| A_21_P414884   | -2.014 | -1.010 | 2.014 | down | ZNF584        | Homo sapiens zinc finger protein 584 (ZNF584), mRNA [NM_173648]  |
| A_21_P0013246  | -2.014 | -1.010 | 2.014 | down | XLOC1213485   | BROAD Institute lincRNA (XLOC1213485), lincRNA [TCOONS12_00280406]   |
| A_23_P34176    | -2.014 | -1.010 | 2.014 | down | WWC3          | Homo sapiens WWC family member 3 (WWC3), mRNA [NM_015691]  |
| A_33_P3434655  | -2.013 | -1.010 | 2.013 | down | neurobin      | neurobin pseudogene 3 [Source:HGNC Symbol;Acc:HGNC:40004] [ENS:00000429638]  |
| A_33_P3217460  | -2.013 | -1.009 | 2.013 | down | HRRP3         | Homo sapiens HRRP3 interacting protein 3 (HRRP3), transcript variant 1, mRNA [NM_003699]   |
| A_33_P6815462  | -2.012 | -1.009 | 2.012 | down | ITGA9-AS1     | Homo sapiens ITGA9 antisense RNA 1 (ITGA9-AS1), transcript variant 2, long non-coding RNA [NR_110359]  |
| A_23_P37654    | -2.012 | -1.009 | 2.012 | down | MGA           | Homo sapiens MGA, MAX, demethylase protein (MGA), transcript variant 1, mRNA [NM_001164273]  |
| A_23_P38877    | -2.012 | -1.009 | 2.012 | down | GOPC          | Homo sapiens Golgi-associated POZ and coiled-coil motif containing (GOPC), transcript variant 1, mRNA [NM_029294568]   |
| A_23_P251916   | -2.012 | -1.009 | 2.012 | down | BMND1         | Homo sapiens brain-derived neurotrophic factor 1 (BMND1), transcript variant 1, mRNA [NM_0110302]  |
| A_22_P00001617 | -2.012 | -1.008 | 2.012 | down | ZBED1         | Homo sapiens zinc finger, BED-type containing 1 (ZBED1), transcript variant 3, mRNA [NM_001171135]   |
| A_24_P134319   | -2.012 | -1.008 | 2.012 | down | ADNP          | Homo sapiens activity-dependent neuroprotector homeobox (ADNP), transcript variant 3, mRNA [NM_001282531]  |
| A_23_P21778    | -2.012 | -1.008 | 2.012 | down | MSL3          | Homo sapiens male-specific lethal 3 homolog (Drosophila) (MSL3), transcript variant 1, mRNA [NM_078239]  |
| A_23_P302346   | -2.011 | -1.008 | 2.011 | down | ZSCAN23       | Homo sapiens zinc finger and SCAN domain containing 23 (ZSCAN23), mRNA [NM_145115]   |
| A_23_P341700   | -2.011 | -1.008 | 2.011 | down | ZNF484        | Homo sapiens zinc finger protein 484 (ZNF484), transcript variant 2, mRNA [NM_001007101]   |
| A_23_P146417   | -2.010 | -1.007 | 2.010 | down | TMEM245       | Homo sapiens transmembrane protein 245 (TMEM245), mRNA [NM_032012]   |
| A_33_P3221064  | -2.010 | -1.007 | 2.010 | down | LTPB4         | Homo sapiens latent transforming growth factor beta binding protein 4 (LTPB4), transcript variant 1, mRNA [NM_001042544]                                     |
| A_24_P941812   | -2.010 | -1.007 | 2.010 | down | DTX3L         | Homo sapiens detox 3 like E3 ubiquitin ligase (DTX3L), mRNA [NM_139287]  |
| A_23_P27163    | -2.010 | -1.007 | 2.010 | down | LAGE3         | Homo sapiens Lagenin family, member 3 (LAGE3), mRNA [NM_000191]  |
| A_33_P331081   | -2.009 | -1.007 | 2.009 | down | WDR21         | Homo sapiens WDR21, vesicular HPA-Pase homolog (S. cerevisiae) (WDR21), mRNA [NM_001071980]  |
| A_23_P113184   | -2.009 | -1.007 | 2.009 | down | PTO           | Homo sapiens titin mass and density associated (PTO), mRNA [NM_008452]   |
| A_23_P46396    | -2.009 | -1.007 | 2.009 | down | HSD17B10      | Homo sapiens hydroxysteroid (17-beta) dehydrogenase 10 (HSD17B10), transcript variant 1, mRNA [NM_004943]  |
| A_23_P164638   | -2.009 | -1.007 | 2.009 | down | ZNF419        | Homo sapiens zinc finger protein 419 (ZNF419), transcript variant 2, mRNA [NM_024681]  |
| A_23_P311201   | -2.009 | -1.007 | 2.009 | down | SRSF10        | Homo sapiens serine/arginine-rich splicing factor 10 (SRSF10), transcript variant 2, mRNA [NM_050116]  |
| A_24_P67946    | -2.009 | -1.006 | 2.009 | down | NUDT14        | Homo sapiens nudix (nucleoside diphosphate linked moiety X)-type motif 4 (NUDT14), transcript variant 2, mRNA [NM_199040]                                    |

|                |        |        |       |      |              |  |
|----------------|--------|--------|-------|------|--------------|--|
| A_22_P00008667 | -2.009 | -1.006 | 2.009 | down | AGRN         | Homo sapiens agrn (AGRN), mRNA [NM_186576]   |
| A_23_P123183   | -2.009 | -1.006 | 2.009 | down | ACTR8B       | Homo sapiens ARP3 actin-related protein 3 homolog B (yeast) (ACTR8B), transcript variant 1, mRNA [NM_020445]   |
| A_33_P383816   | -2.009 | -1.006 | 2.009 | down | LINC00900    | Homo sapiens long intergenic non-protein coding RNA 909 (LINC00900), long non-coding RNA [NR_024484]   |
| A_22_P00012788 | -2.008 | -1.006 | 2.008 | down | TRIE2        | Homo sapiens triebias pseudokinase 2 (TRIE2), transcript variant 1, mRNA [NM_021643]   |
| A_24_P396753   | -2.008 | -1.006 | 2.008 | down | CHRFAM7A     | Homo sapiens CHRFAM7A (cholinergic receptor, nicotinic, alpha 7, exons 5-10 and FAM7A family with sequence similarity 7A, exons A-E fusion) (CHRFAM7A), transcript variant 1, mRNA [NM_138220] |
| A_33_P3719083  | -2.008 | -1.006 | 2.008 | down | CHRFAM7A     | Homo sapiens CHRFAM7A (cholinergic receptor, nicotinic, alpha 7, exons 5-10 and FAM7A family with sequence similarity 7A, exons A-E fusion) (CHRFAM7A), transcript variant 2, mRNA [NM_138220] |
| A_23_P592170   | -2.007 | -1.005 | 2.007 | down | DYN2L1       | Homo sapiens dynein, cytoplasmic 2, light intermediate chain 1 (DYN2L1), transcript variant 2, mRNA [NM_016400]  |
| A_19_P06318376 | -2.007 | -1.005 | 2.007 | down | UBA6-AS1     | Homo sapiens UBA6 antisense RNA 1 (head to head) (UBA6-AS1), long non-coding RNA [NR_016400]   |
| A_23_P119178   | -2.006 | -1.004 | 2.006 | down | SLC39A10     | Homo sapiens solute carrier family 39 (zinc transporter), member 10 (SLC39A10), transcript variant 2, mRNA [NM_020342]   |
| A_22_P00010754 | -2.006 | -1.004 | 2.006 | down | SLC39A10     | Homo sapiens solute carrier family 39 (zinc transporter), member 10 (SLC39A10), transcript variant 1, mRNA [NM_020342]   |
| A_23_P390363   | -2.005 | -1.003 | 2.005 | down | P4HA2        | Homo sapiens prolyl 4-hydroxylase, alpha polypeptide II (P4HA2), transcript variant 1, mRNA [NM_004199]  |
| A_33_P3283626  | -2.005 | -1.003 | 2.005 | down | RNF23        | Homo sapiens cDNA FLJ24018, fig. clone LNC14339, [AK12857]   |
| A_23_P76359    | -2.004 | -1.003 | 2.004 | down | AGPAT4-T1    | Homo sapiens AGPAT4 intronic transcript 1 (non-protein coding) (AGPAT4-T1), long non-coding RNA [NR_024277]  |
| A_24_P601972   | -2.004 | -1.003 | 2.004 | down | C2orf74      | Homo sapiens chromosome 2 open reading frame 74 (C2orf74), transcript variant 1, mRNA [NM_001149595]   |
| A_33_P3421365  | -2.004 | -1.003 | 2.004 | down | ZNF169       | Homo sapiens zinc finger protein 169 (ZNF169), transcript variant 3, mRNA [NM_001301275]   |
| A_24_P63030    | -2.003 | -1.002 | 2.003 | down | SF3X5        | Homo sapiens adenosine 5' (SF3X5), mRNA [NM_144579]  |
| A_33_P327392   | -2.002 | -1.002 | 2.002 | down | RNF13        | Homo sapiens ring finger protein 13 (RNF13), transcript variant 1, mRNA [NM_007282]  |
| A_23_P310811   | -2.002 | -1.002 | 2.002 | down | ELMH         | Homo sapiens bismycan hydrolysiac (ELMH), mRNA [NM_000386]   |
| A_21_P301107   | -2.001 | -1.001 | 2.001 | down | ALOC2-022167 | Homo sapiens coiled-coil domain containing 37 (CCDC37) (ALOC2-022167), lncRNA [CCNS164]  |
| A_23_P327184   | -2.001 | -1.001 | 2.001 | down | SLC12-026B   | BROAD flathead lincRNA (ALOC2-022167), lncRNA [CCNS164]  |
| A_23_P327184   | -2.001 | -1.001 | 2.001 | down | SLC12-026B   | Homo sapiens multiple transmembrane domain containing 12 (SLC12A12), mRNA [NM_003220]  |
| A_23_P106463   | -2.000 | -1.000 | 2.000 | down | DAZ2         | Homo sapiens multiple transmembrane domain containing 12 (SLC12A12), transcript variant 1, mRNA [NM_003220]  |
| A_24_P186988   | -2.000 | -1.000 | 2.000 | down |              | ATP synthase, H+ transporting, mitochondrial F1 complex, subunit C1 (isoform 9) pseudogene 5 [Source:HGNC Symbol;Acc:HGNC:39508] [ENST0000024024]  |
| A_33_P3238087  | -2.000 | -1.000 | 2.000 | down | FAM87A       | Homo sapiens family with sequence similarity 87, member A (FAM87A), long non-coding RNA [NR_035377]  |



| 10 | up | GOTERM:CC_DIRECT | G0008828F_cytosol                           | 330 | 2048471132 | 837E-06  | 134E-05  | 1464 | 3315 | 18224 | 1.229119124 | 0.005401397 | 3.92E-04    | 0.012749191 |
|----|----|------------------|---|-----|------------|----------|----------|------|------|-------|-------------|-------------|-------------|-------------|
| 11 | up | GOTERM:CC_DIRECT | G0008816F_guano_nucleoside                  | 388 | 2478163206 | 1.34E-05 | 1.34E-05 | 1464 | 4171 | 18224 | 1.202217617 | 0.008308304 | 0.010259944 | 0.019494462 |
| 12 | up | GOTERM:MF_DIRECT | G0000515F_protein_binding                   | 776 | 4810089396 | 2.06E-05 | 2.06E-05 | 1390 | 8790 | 16891 | 1.103041147 | 0.022777199 | 0.013722936 | 0.033792489 |
| 13 | up | GOTERM:BP_DIRECT | G0001815F_pseudo_or_virus_hitch             | 15  | 0310289396 | 2.06E-05 | 2.06E-05 | 1394 | 90   | 10792 | 3.202611761 | 0.111079514 | 0.020076295 | 0.050411522 |
| 14 | up | GOTERM:CC_DIRECT | G0008817F_sarcomeric_region_of_cytoskeleton | 80  | 4365699714 | 2.79E-05 | 2.79E-05 | 1464 | 601  | 18224 | 1.600161649 | 0.017300296 | 0.002029465 | 0.041652396 |
| 15 | up | GOTERM:MF_DIRECT | G0008816F_structural_molecule_activity      | 40  | 2462595815 | 3.08E-05 | 3.08E-05 | 1390 | 247  | 16891 | 2.005122961 | 0.049207219 | 0.011816791 | 0.050411522 |
| 16 | up | GOTERM:MF_DIRECT | G0008830F_calcium_dependent_protein_binding | 16  | 018111940  | 3.54E-05 | 3.54E-05 | 1390 | 99   | 16891 | 3.462008996 | 0.046401152 | 0.011816791 | 0.050411522 |







|     |    |                  |             |            |            |      |     |       |             |             |             |             |
|-----|----|------------------|-------------|------------|------------|------|-----|-------|-------------|-------------|-------------|-------------|
| 75  | up | GOTERM BP DIRECT | GO:00078464 | 0.00078464 | 0.00078464 | 1354 | 37  | 16792 | 3.35185042  | 0.098933188 | 0.230069414 | 4.033564812 |
| 76  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 59  | 16792 | 2.72039346  | 0.09905122  | 0.09941376  | 4.18693716  |
| 77  | up | GOTERM CC DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1494 | 323 | 18224 | 1.618367516 | 0.16850006  | 0.04252675  | 3.338226120 |
| 78  | up | GOTERM MF DIRECT | GO:0045458  | 0.0045458  | 0.0045458  | 1349 | 13  | 16881 | 5.75190284  | 0.09077793  | 0.17345008  | 3.74394944  |
| 79  | up | GOTERM MF DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1349 | 116 | 16881 | 2.10068051  | 0.095261706 | 0.17027571  | 4.01950306  |
| 80  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 103 | 16792 | 1.84637862  | 0.099891474 | 0.23231074  | 4.839828207 |
| 81  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 38  | 16792 | 3.263824549 | 0.099891824 | 0.31468789  | 4.819295386 |
| 82  | up | GOTERM CC DIRECT | GO:0001017  | 0.0008117  | 0.0008117  | 1494 | 206 | 18224 | 1.640118628 | 0.081774286 | 0.001716422 | 3.582824447 |
| 83  | up | GOTERM CC DIRECT | GO:0018871  | 0.0008117  | 0.0008117  | 1494 | 26  | 18224 | 3.862897978 | 0.23018816  | 0.00252047  | 4.691469377 |
| 84  | up | GOTERM MF DIRECT | GO:0008647  | 0.0008117  | 0.0008117  | 1349 | 290 | 16881 | 1.63972623  | 0.18520719  | 0.193084425 | 4.83065172  |
| 85  | up | GOTERM MF DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1349 | 176 | 16881 | 1.84681681  | 0.093400774 | 0.07091605  | 5.526861734 |
| 86  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 100 | 16792 | 2.16730063  | 0.099891474 | 0.37791834  | 6.283808652 |
| 87  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 26  | 16792 | 3.81830008  | 0.099891474 | 0.37510262  | 6.69030450  |
| 88  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 47  | 16792 | 2.90242206  | 0.099891474 | 0.37510262  | 6.69030450  |
| 89  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 130 | 16792 | 2.00383264  | 0.099891474 | 0.37510262  | 6.69030450  |
| 90  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 139 | 16792 | 1.86270472  | 0.099891474 | 0.37510262  | 6.69030450  |
| 91  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 9   | 16792 | 6.888673625 | 0.099891474 | 0.37510262  | 6.69030450  |
| 92  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 36  | 16792 | 2.705841778 | 0.099891474 | 0.37510262  | 6.69030450  |
| 93  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 76  | 16792 | 2.35476035  | 0.099891474 | 0.37510262  | 6.69030450  |
| 94  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 40  | 16881 | 6.82772693  | 0.099891474 | 0.37510262  | 6.69030450  |
| 95  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 405 | 16792 | 1.471885717 | 0.099891474 | 0.37510262  | 6.69030450  |
| 96  | up | GOTERM MF DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1349 | 115 | 16881 | 2.0974816   | 0.097815206 | 0.23451880  | 6.91427218  |
| 97  | up | GOTERM CC DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1494 | 315 | 18224 | 1.58070515  | 0.04252675  | 0.00772209  | 6.517344837 |
| 98  | up | GOTERM CC DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1494 | 3   | 18224 | 3.95048845  | 0.34452265  | 0.07202142  | 6.517344837 |
| 99  | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 72  | 16792 | 2.41145789  | 0.099891474 | 0.37510262  | 6.69030450  |
| 100 | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 89  | 16792 | 2.22932339  | 0.099891474 | 0.37510262  | 6.69030450  |
| 101 | up | GOTERM MF DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1349 | 65  | 16881 | 2.50274272  | 0.09862638  | 0.24911071  | 7.74516168  |
| 102 | up | GOTERM MF DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1349 | 162 | 16881 | 1.85385355  | 0.09862638  | 0.24911071  | 7.74516168  |
| 103 | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 57  | 16792 | 2.81080478  | 0.097815206 | 0.23451880  | 6.91427218  |
| 104 | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1349 | 50  | 16881 | 2.50104447  | 0.097815206 | 0.23451880  | 6.91427218  |
| 105 | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 29  | 16792 | 3.54538379  | 0.04252675  | 0.00772209  | 10.1661004  |
| 106 | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 26  | 16792 | 3.54538379  | 0.04252675  | 0.00772209  | 10.1661004  |
| 107 | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 40  | 16792 | 2.00858053  | 0.04252675  | 0.00772209  | 10.1661004  |
| 108 | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 40  | 16792 | 2.884133146 | 0.04252675  | 0.00772209  | 10.1661004  |
| 109 | up | GOTERM BP DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1354 | 22  | 16792 | 3.96755092  | 0.04252675  | 0.00772209  | 10.1661004  |
| 110 | up | GOTERM CC DIRECT | GO:0008117  | 0.0008117  | 0.0008117  | 1494 | 22  | 18224 | 3.96755092  | 0.04252675  | 0.00772209  | 10.1661004  |









| 270 | up | GOTERM CC DIRECT | G0:0008877 | Integral component of plasma membrane                           | 0.000003277 | 8.13326629 | 1464 | 1410 | 18224 | 1.10240776  | 0.03204638  | 56.91184334 |
|-----|----|------------------|------------|---|-------------|------------|------|------|-------|-------------|-------------|-------------|
| 271 | up | GOTERM BP DIRECT | G0:0004113 | membrane migration  | 0.000501150 | 0.88213130 | 1354 | 5    | 16792 | 7.44100316  | 0.89021010  | 65.44917007 |
| 272 | up | GOTERM BP DIRECT | G0:001344  | positive regulation of cell projection organization             | 0.000501150 | 0.88213130 | 1354 | 5    | 16792 | 7.44100316  | 0.89021010  | 65.44917007 |
| 273 | up | GOTERM BP DIRECT | G0:0003284 | cellular extension or organ growth                              | 0.000439461 | 0.94493979 | 1354 | 80   | 16792 | 1.880293879 | 0.89476869  | 65.71010044 |
| 274 | up | GOTERM BP DIRECT | G0:0008716 | vesicle entry into host cell                                    | 0.000439461 | 0.94493979 | 1354 | 80   | 16792 | 1.880293879 | 0.89476869  | 65.71010044 |
| 275 | up | GOTERM BP DIRECT | G0:0011347 | cellular response to interferon-1                               | 0.000439461 | 0.94493979 | 1354 | 80   | 16792 | 1.880293879 | 0.89476869  | 65.71010044 |
| 276 | up | GOTERM BP DIRECT | G0:0013507 | cellular response to tumor necrosis factor                      | 0.000439461 | 0.94493979 | 1354 | 80   | 16792 | 1.880293879 | 0.89476869  | 65.71010044 |
| 277 | up | GOTERM MF DIRECT | G0:0000006 | GTPase activator activity                                       | 0.000439461 | 0.94493979 | 1354 | 279  | 16891 | 1.306412651 | 0.830314490 | 62.7448651  |
| 278 | up | GOTERM MF DIRECT | G0:0004871 | signal transducer activity                                      | 0.000439461 | 0.94493979 | 1354 | 204  | 16891 | 1.472201831 | 0.830241122 | 62.80009460 |
| 279 | up | GOTERM BP DIRECT | G0:0011002 | positive regulation of protein serine/threonine kinase activity | 0.000439461 | 0.94493979 | 1354 | 35   | 16792 | 2.460264505 | 0.830032229 | 67.77702047 |
| 280 | up | GOTERM BP DIRECT | G0:0008025 | regulation of RNA polymerase transcription                      | 0.000439461 | 0.94493979 | 1354 | 81   | 16792 | 1.837938323 | 0.830188029 | 68.48486987 |
| 281 | up | GOTERM MF DIRECT | G0:0003872 | synaptotagmin activity  | 0.000439461 | 0.94493979 | 1354 | 19   | 16891 | 3.260292025 | 0.830265965 | 63.35101426 |
| 282 | up | GOTERM MF DIRECT | G0:0003872 | synaptotagmin activity  | 0.000439461 | 0.94493979 | 1354 | 19   | 16891 | 3.260292025 | 0.830265965 | 63.35101426 |
| 283 | up | GOTERM BP DIRECT | G0:0004000 | membrane fusion   | 0.000439461 | 0.94493979 | 1354 | 10   | 16792 | 0.411145460 | 0.830002480 | 60.00028462 |
| 284 | up | GOTERM BP DIRECT | G0:0004000 | membrane fusion   | 0.000439461 | 0.94493979 | 1354 | 10   | 16792 | 0.411145460 | 0.830002480 | 60.00028462 |
| 285 | up | GOTERM BP DIRECT | G0:0004000 | membrane fusion   | 0.000439461 | 0.94493979 | 1354 | 10   | 16792 | 0.411145460 | 0.830002480 | 60.00028462 |
| 286 | up | GOTERM BP DIRECT | G0:0004000 | membrane fusion   | 0.000439461 | 0.94493979 | 1354 | 10   | 16792 | 0.411145460 | 0.830002480 | 60.00028462 |
| 287 | up | GOTERM BP DIRECT | G0:0004000 | membrane fusion   | 0.000439461 | 0.94493979 | 1354 | 10   | 16792 | 0.411145460 | 0.830002480 | 60.00028462 |
| 288 | up | GOTERM BP DIRECT | G0:0004000 | membrane fusion   | 0.000439461 | 0.94493979 | 1354 | 10   | 16792 | 0.411145460 | 0.830002480 | 60.00028462 |
| 289 | up | GOTERM BP DIRECT | G0:0004000 | membrane fusion   | 0.000439461 | 0.94493979 | 1354 | 10   | 16792 | 0.411145460 | 0.830002480 | 60.00028462 |
| 290 | up | GOTERM BP DIRECT | G0:0010221 | cytokine-mediated signaling pathway                             | 0.000439461 | 0.94493979 | 1354 | 131  | 16792 | 1.609303028 | 0.830163247 | 69.73546024 |
| 291 | up | GOTERM MF DIRECT | G0:0004888 | globulin receptor activity                                      | 0.000439461 | 0.94493979 | 1354 | 30   | 16891 | 2.43227214  | 0.830123369 | 65.26411607 |
| 292 | up | GOTERM BP DIRECT | G0:0008797 | regulation of inflammatory response                             | 0.000439461 | 0.94493979 | 1354 | 60   | 16792 | 1.966535222 | 0.830180334 | 71.38571888 |
| 293 | up | GOTERM BP DIRECT | G0:0009111 | response to wounding  | 0.000439461 | 0.94493979 | 1354 | 60   | 16792 | 1.966535222 | 0.830180334 | 71.38571888 |
| 294 | up | GOTERM BP DIRECT | G0:0004888 | globulin receptor activity                                      | 0.000439461 | 0.94493979 | 1354 | 30   | 16891 | 2.43227214  | 0.830123369 | 65.26411607 |
| 295 | up | GOTERM BP DIRECT | G0:0004888 | globulin receptor activity                                      | 0.000439461 | 0.94493979 | 1354 | 30   | 16891 | 2.43227214  | 0.830123369 | 65.26411607 |
| 296 | up | GOTERM BP DIRECT | G0:0004888 | globulin receptor activity                                      | 0.000439461 | 0.94493979 | 1354 | 30   | 16891 | 2.43227214  | 0.830123369 | 65.26411607 |
| 297 | up | GOTERM BP DIRECT | G0:0004888 | globulin receptor activity                                      | 0.000439461 | 0.94493979 | 1354 | 30   | 16891 | 2.43227214  | 0.830123369 | 65.26411607 |
| 298 | up | GOTERM BP DIRECT | G0:0009000 | cytokine receptor activity                                      | 0.000439461 | 0.94493979 | 1354 | 122  | 16792 | 1.606461971 | 0.830166221 | 72.10751677 |
| 299 | up | GOTERM BP DIRECT | G0:0000007 | G1/S transition of mitotic cell cycle                           | 0.000439461 | 0.94493979 | 1354 | 102  | 16792 | 1.700204072 | 0.830152715 | 72.16727336 |
| 300 | up | GOTERM BP DIRECT | G0:0008146 | positive regulation of fibroblast proliferation                 | 0.000439461 | 0.94493979 | 1354 | 54   | 16792 | 2.066569085 | 0.830141066 | 72.29951781 |
| 301 | up | GOTERM BP DIRECT | G0:0008146 | positive regulation of fibroblast proliferation                 | 0.000439461 | 0.94493979 | 1354 | 54   | 16792 | 2.066569085 | 0.830141066 | 72.29951781 |
| 302 | up | GOTERM BP DIRECT | G0:0008146 | positive regulation of fibroblast proliferation                 | 0.000439461 | 0.94493979 | 1354 | 54   | 16792 | 2.066569085 | 0.830141066 | 72.29951781 |
| 303 | up | GOTERM BP DIRECT | G0:0008146 | positive regulation of fibroblast proliferation                 | 0.000439461 | 0.94493979 | 1354 | 54   | 16792 | 2.066569085 | 0.830141066 | 72.29951781 |
| 304 | up | GOTERM BP DIRECT | G0:0008146 | positive regulation of fibroblast proliferation                 | 0.000439461 | 0.94493979 | 1354 | 54   | 16792 | 2.066569085 | 0.830141066 | 72.29951781 |
| 305 | up | GOTERM BP DIRECT | G0:0008146 | positive regulation of fibroblast proliferation                 | 0.000439461 | 0.94493979 | 1354 | 54   | 16792 | 2.066569085 | 0.830141066 | 72.29951781 |
| 306 | up | GOTERM BP DIRECT | G0:0008146 | positive regulation of fibroblast proliferation                 | 0.000439461 | 0.94493979 | 1354 | 54   | 16792 | 2.066569085 | 0.830141066 | 72.29951781 |
| 307 | up | GOTERM BP DIRECT | G0:0008146 | positive regulation of fibroblast proliferation                 | 0.000439461 | 0.94493979 | 1354 | 54   | 16792 | 2.066569085 | 0.830141066 | 72.29951781 |
| 308 | up | GOTERM MF DIRECT | G0:0000047 | core promoter binding   | 0.000439461 | 0.94493979 | 1354 | 64   | 16891 | 1.955397791 | 0.832127387 | 67.8289821  |
| 309 | up | GOTERM BP DIRECT | G0:0009272 | positive regulation of inflammatory response                    | 0.000439461 | 0.94493979 | 1354 | 70   | 16792 | 1.988700844 | 0.830429790 | 72.16450807 |
| 310 | up | GOTERM CC DIRECT | G0:0010008 | cellular membrane   | 0.000439461 | 0.94493979 | 1464 | 185  | 18224 | 1.4807131   | 0.830268496 | 64.08017738 |
| 311 | up | GOTERM CC DIRECT | G0:0006852 | anchored component of plasma membrane                           | 0.000439461 | 0.94493979 | 1464 | 28   | 18224 | 2.667447207 | 0.830272478 | 65.63352743 |
| 312 | up | GOTERM BP DIRECT | G0:0011222 | cellular response to lipopolysaccharide                         | 0.000439461 | 0.94493979 | 1354 | 113  | 16792 | 1.64626259  | 0.830150846 | 74.36263534 |
| 313 | up | GOTERM BP DIRECT | G0:0004016 | regulation of cell motility                                     | 0.000439461 | 0.94493979 | 1354 | 26   | 16792 | 0.657222864 | 0.830207662 | 64.46452764 |
| 314 | up | GOTERM BP DIRECT | G0:0004016 | regulation of cell motility                                     | 0.000439461 | 0.94493979 | 1354 | 26   | 16792 | 0.657222864 | 0.830207662 | 64.46452764 |
| 315 | up | GOTERM BP DIRECT | G0:0004016 | regulation of cell motility                                     | 0.000439461 | 0.94493979 | 1354 | 26   | 16792 | 0.657222864 | 0.830207662 | 64.46452764 |
| 316 | up | GOTERM CC DIRECT | G0:0000041 | secretory granule   | 0.000439461 | 0.94493979 | 1464 | 74   | 18224 | 1.850313755 | 0.830484457 | 70.0000002  |
| 317 | up | GOTERM CC DIRECT | G0:0000042 | secretory granule   | 0.000439461 | 0.94493979 | 1464 | 56   | 18224 | 2.008569762 | 0.830507016 | 66.30211391 |
| 318 | up | GOTERM BP DIRECT | G0:0000030 | neuronal cell adhesion  | 0.000439461 | 0.94493979 | 1354 | 20   | 16792 | 0.302413131 | 0.830117728 | 75.30056462 |
| 319 | up | GOTERM BP DIRECT | G0:0000030 | neuronal cell adhesion  | 0.000439461 | 0.94493979 | 1354 | 20   | 16792 | 0.302413131 | 0.830117728 | 75.30056462 |
| 320 | up | GOTERM BP DIRECT | G0:0004879 | response to drug  | 0.000439461 | 0.94493979 | 1354 | 304  | 16792 | 1.366450444 | 0.830224832 | 75.46010489 |
| 321 | up | GOTERM CC DIRECT | G0:0012265 | endomembrane system   | 0.000439461 | 0.94493979 | 1464 | 114  | 18224 | 1.637000841 | 0.830183889 | 67.38231215 |

| 322 | up | GOTERM BP DIRECT | GO:0007529 | 01755329 | 1394 | 160 | 16792 | 130044105 | 1 | 0.0251191   | 75.4614729  |
|-----|----|------------------|------------|----------|------|-----|-------|-----------|---|-------------|-------------|
| 323 | up | GOTERM BP DIRECT | GO:0046267 | 0046267  | 1394 | 46  | 16792 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 324 | up | GOTERM BP DIRECT | GO:0046267 | 0046267  | 1394 | 46  | 16792 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 325 | up | GOTERM BP DIRECT | GO:0007007 | 0007007  | 1394 | 56  | 16801 | 201132905 | 1 | 0.04761306  | 76.2437907  |
| 326 | up | GOTERM BP DIRECT | GO:0001384 | 0001384  | 1394 | 66  | 16792 | 130050214 | 1 | 0.02050214  | 77.1437416  |
| 327 | up | GOTERM BP DIRECT | GO:0001701 | 0001701  | 1394 | 107 | 16792 | 146000282 | 1 | 0.02574036  | 77.2594951  |
| 328 | up | GOTERM MF DIRECT | GO:0004674 | 0004674  | 1398 | 376 | 16801 | 129795002 | 1 | 0.045716205 | 72.7950389  |
| 329 | up | GOTERM CC DIRECT | GO:0046177 | 0046177  | 1494 | 75  | 18224 | 182971149 | 1 | 0.011516006 | 69.4826937  |
| 330 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 331 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 332 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 333 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 334 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 335 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 336 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 337 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 338 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 339 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 340 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 341 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 342 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 343 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 344 | up | GOTERM BP DIRECT | GO:0007529 | 0007529  | 1394 | 46  | 16801 | 216800004 | 1 | 0.02829146  | 76.1511466  |
| 345 | up | GOTERM CC DIRECT | GO:0007010 | 0007010  | 1494 | 126 | 18224 | 138070915 | 1 | 0.02417446  | 71.0021479  |
| 346 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1394 | 47  | 16792 | 211040004 | 1 | 0.034812727 | 79.3841184  |
| 347 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1394 | 47  | 16792 | 211040004 | 1 | 0.034812727 | 79.3841184  |
| 348 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1394 | 47  | 16792 | 211040004 | 1 | 0.034812727 | 79.3841184  |
| 349 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1394 | 47  | 16792 | 211040004 | 1 | 0.034812727 | 79.3841184  |
| 350 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1394 | 47  | 16792 | 211040004 | 1 | 0.034812727 | 79.3841184  |
| 351 | up | GOTERM BP DIRECT | GO:0042517 | 0042517  | 1394 | 36  | 16792 | 228453744 | 1 | 0.03387023  | 79.4811115  |
| 352 | up | GOTERM CC DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 353 | up | GOTERM CC DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 354 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 355 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 356 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 357 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 358 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 359 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 360 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 361 | up | GOTERM BP DIRECT | GO:0006890 | 0006890  | 1494 | 96  | 18224 | 186076906 | 1 | 0.03503985  | 72.2253038  |
| 362 | up | GOTERM CC DIRECT | GO:0004324 | 0004324  | 1494 | 412 | 18224 | 126897987 | 1 | 0.04210485  | 74.81136214 |
| 363 | up | GOTERM BP DIRECT | GO:0006468 | 0006468  | 1394 | 496 | 16792 | 1251056   | 1 | 0.0410599   | 82.0459834  |
| 364 | up | GOTERM BP DIRECT | GO:0006468 | 0006468  | 1394 | 496 | 16792 | 1251056   | 1 | 0.0410599   | 82.0459834  |
| 365 | up | GOTERM BP DIRECT | GO:0006468 | 0006468  | 1394 | 496 | 16792 | 1251056   | 1 | 0.0410599   | 82.0459834  |
| 366 | up | GOTERM BP DIRECT | GO:0006468 | 0006468  | 1394 | 496 | 16792 | 1251056   | 1 | 0.0410599   | 82.0459834  |
| 367 | up | GOTERM BP DIRECT | GO:0006468 | 0006468  | 1394 | 496 | 16792 | 1251056   | 1 | 0.0410599   | 82.0459834  |
| 368 | up | GOTERM CC DIRECT | GO:0001245 | 0001245  | 1494 | 56  | 18224 | 138001979 | 1 | 0.0543375   | 76.3433016  |
| 369 | up | GOTERM CC DIRECT | GO:0001245 | 0001245  | 1494 | 56  | 18224 | 138001979 | 1 | 0.0543375   | 76.3433016  |
| 370 | up | GOTERM CC DIRECT | GO:0001245 | 0001245  | 1494 | 56  | 18224 | 138001979 | 1 | 0.0543375   | 76.3433016  |
| 371 | up | GOTERM CC DIRECT | GO:0001245 | 0001245  | 1494 | 56  | 18224 | 138001979 | 1 | 0.0543375   | 76.3433016  |
| 372 | up | GOTERM CC DIRECT | GO:0001245 | 0001245  | 1494 | 56  | 18224 | 138001979 | 1 | 0.0543375   | 76.3433016  |

|     |      |                  |            |   |            |            |      |      |       |                |           |           |             |
|-----|------|------------------|------------|---|------------|------------|------|------|-------|----------------|-----------|-----------|-------------|
| 373 | up   | GOTERM MF DIRECT | GO:000552  | transcription binding                                       | 0.0584541  | 0.0584541  | 1390 | 14   | 16801 | 3, 575,246,18  | 1         | 0.8274703 | 80,1057,028 |
| 374 | up   | GOTERM MF DIRECT | GO:004836  | RNA, GTPase binding   | 0.04343275 | 0.04343275 | 1390 | 40   | 16801 | 2, 188,984,66  | 1         | 0.8744662 | 80,1049,779 |
| 375 | up   | GOTERM MF DIRECT | GO:004836  | RNA, GTPase binding   | 0.0584541  | 0.0584541  | 1390 | 40   | 16801 | 2, 188,984,66  | 1         | 0.8274703 | 80,1057,028 |
| 376 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 377 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 378 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 379 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 380 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 381 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 382 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 383 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 384 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 385 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 386 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 387 | up   | GOTERM MF DIRECT | GO:000107  | negative regulation of epithelial to mesenchymal transition | 0.0584541  | 0.0584541  | 1390 | 22   | 16792 | 2, 818,946,45  | 1         | 0.9524385 | 80,1171,13  |
| 388 | down | GOTERM MF DIRECT | GO:0008387 | metal ion binding   | 1.00E-01   | 1.00E-01   | 1391 | 124  | 16792 | 3, 482,668,07  | 5, 73E-07 | 1.33E-04  | 1,44E-06    |
| 389 | down | GOTERM MF DIRECT | GO:0008387 | metal ion binding   | 1.00E-01   | 1.00E-01   | 1391 | 200  | 16801 | 1, 444,000,12  | 1, 33E-04 | 1.33E-04  | 1,44E-06    |
| 390 | down | GOTERM MF DIRECT | GO:0008387 | metal ion binding   | 1.00E-01   | 1.00E-01   | 1391 | 1054 | 16792 | 1, 478,000,758 | 2, 13E-04 | 1.00E-04  | 1,44E-06    |
| 391 | down | GOTERM MF DIRECT | GO:0008387 | metal ion binding   | 1.00E-01   | 1.00E-01   | 1391 | 1054 | 16792 | 1, 478,000,758 | 2, 13E-04 | 1.00E-04  | 1,44E-06    |
| 392 | down | GOTERM MF DIRECT | GO:0008387 | metal ion binding   | 1.00E-01   | 1.00E-01   | 1391 | 1054 | 16792 | 1, 478,000,758 | 2, 13E-04 | 1.00E-04  | 1,44E-06    |
| 393 | down | GOTERM MF DIRECT | GO:0008387 | metal ion binding   | 1.00E-01   | 1.00E-01   | 1391 | 1054 | 16792 | 1, 478,000,758 | 2, 13E-04 | 1.00E-04  | 1,44E-06    |

|     |      |                  |   |     |                |           |       |      |       |               |               |                 |               |
|-----|------|------------------|---|-----|----------------|-----------|-------|------|-------|---------------|---------------|-----------------|---------------|
| 394 | down | GOTERM BP_DIRECT | GO:0008351 transcription DNA-templated                                  | 210 | 12,742,718,456 | 9,805,046 | 1,391 | 1935 | 16792 | 1,325,330,842 | 0,040,461,623 | 0,002,825,966   | 0,018,077,296 |
| 395 | down | GOTERM CC_DIRECT | GO:0008788 endoplasmic reticulum lumen                                  | 335 | 2,123,786,408  | 1,135,040 | 1475  | 162  | 18234 | 2,322,253,687 | 0,006,464,235 | 0,003,371,660   | 0,016,601,175 |
| 396 | down | GOTERM CC_DIRECT | GO:0007542 ciliary tip  | 14  | 8,465,146,650  | 2,985,040 | 1475  | 46   | 18234 | 3,911,717,337 | 0,071,004,607 | 0,007,620,606   | 0,049,737,966 |
| 397 | down | GOTERM MF_DIRECT | GO:0003700 transcription factor activity, sequence-specific DNA binding | 114 | 6,914,629,726  | 2,025,040 | 1397  | 901  | 16891 | 1,464,010,991 | 0,03,000,072  | 0,019,671,949   | 0,079,102,890 |
| 398 | down | GOTERM BP_DIRECT | GO:0043386 cell development   | 12  | 0,729,193,534  | 4,715,040 | 1391  | 34   | 16792 | 4,354,938,267 | 0,182,008,236 | 0,027,571,913   | 0,089,431,986 |
| 399 | down | GOTERM BP_DIRECT | GO:0005114 oxidoreductase activity                                      | 76  | 4,611,600,480  | 6,605,040 | 1391  | 592  | 16792 | 1,303,800,735 | 0,244,581,839 | 0,032,411,724   | 0,124,433,020 |
| 400 | down | GOTERM MF_DIRECT | GO:0003716 nucleic acid binding   | 114 | 6,914,629,726  | 8,305,040 | 1397  | 900  | 16891 | 1,429,173,338 | 0,105,200,768 | 0,030,632,779   | 0,127,147,194 |
| 401 | down | GOTERM CC_DIRECT | GO:0038064 ciliary base body  | 21  | 12,742,718,456 | 9,515,040 | 1475  | 96   | 18234 | 2,677,654,979 | 0,05,644,401  | 0,014,027,797   | 0,102,193,663 |
| 402 | down | GOTERM CC_DIRECT | GO:0007372 primary cilium   | 18  | 1,092,330,000  | 1,345,040 | 1475  | 79   | 18234 | 2,810,123,116 | 0,076,900,644 | 0,01,183,14,406 | 0,179,211,986 |
| 403 | down | GOTERM CC_DIRECT | GO:0010160 organelle membrane   | 19  | 1,182,742,821  | 1,745,040 | 1475  | 87   | 18234 | 2,686,729,144 | 0,08,980,627  | 0,01,171,15,112 | 0,248,662,305 |











|     |      |                  |            |   |            |            |      |      |       |   |             |   |             |            |
|-----|------|------------------|------------|---|------------|------------|------|------|-------|---|-------------|---|-------------|------------|
| 548 | down | GOTERM MF DIRECT | GO:0002877 | magnesium ion binding   | 14561006   | 0.0003304  | 1397 | 204  | 16881 | 1 | 1.452816386 | 1 | 0.0023822   | 67.1847344 |
| 549 | down | GOTERM MF DIRECT | GO:0003811 | collagen timer  | 0.18838151 | 0.00091751 | 1475 | 92   | 18274 | 1 | 1.745051142 | 1 | 0.12250099  | 63.9674833 |
| 550 | down | GOTERM MF DIRECT | GO:0000495 | metabolic activity  | 0.42421844 | 0.00091751 | 1397 | 12   | 16881 | 1 | 4.110313024 | 1 | 0.037027746 | 67.4470381 |
| 551 | down | GOTERM MF DIRECT | GO:0000716 | RNA polymerase II core promoter proximal region sequence-specific DNA binding | 230505243  | 0.00091751 | 1397 | 350  | 16881 | 1 | 1.26185089  | 1 | 0.033039565 | 67.8481079 |
| 552 | down | GOTERM MF DIRECT | GO:0001732 | immune maturation   | 0.42421729 | 0.00091751 | 1391 | 36   | 16792 | 1 | 2.36025284  | 1 | 0.06227325  | 72.6511376 |
| 553 | down | GOTERM MF DIRECT | GO:0001044 | response to zinc ion  | 0.42421729 | 0.00091751 | 1391 | 36   | 16792 | 1 | 2.36025284  | 1 | 0.06227325  | 72.6511376 |
| 554 | down | GOTERM MF DIRECT | GO:0004949 | response to cold  | 0.42421844 | 0.00091751 | 1391 | 36   | 16792 | 1 | 2.36025284  | 1 | 0.06227325  | 72.6511376 |
| 555 | down | GOTERM MF DIRECT | GO:0000262 | cellular potassium ion homeostasis  | 0.42421844 | 0.00091751 | 1391 | 12   | 16792 | 1 | 4.110313024 | 1 | 0.037027746 | 67.4470381 |
| 556 | down | GOTERM MF DIRECT | GO:0002511 | positive regulation of calcium import into nucleus                            | 0.42421844 | 0.00091751 | 1391 | 12   | 16792 | 1 | 4.110313024 | 1 | 0.037027746 | 67.4470381 |
| 557 | down | GOTERM MF DIRECT | GO:0001037 | protein polyubiquitination  | 1349491456 | 0.00091751 | 1391 | 184  | 16792 | 1 | 6.455194071 | 1 | 0.10370376  | 73.0482943 |
| 558 | down | GOTERM MF DIRECT | GO:0001037 | protein polyubiquitination  | 0.34027192 | 0.01141321 | 1391 | 26   | 16792 | 1 | 2.645842329 | 1 | 0.07241864  | 74.9172381 |
| 559 | down | GOTERM MF DIRECT | GO:0010167 | positive regulation of NF-kappaB transcription factor activity                | 1031582336 | 0.01141321 | 1391 | 133  | 16792 | 1 | 1.377035003 | 1 | 0.07134106  | 74.9154934 |
| 560 | down | GOTERM MF DIRECT | GO:0001871 | membrane raft   | 14561006   | 0.00091751 | 1475 | 206  | 18274 | 1 | 1.43944706  | 1 | 0.12116402  | 66.5381046 |
| 561 | down | GOTERM MF DIRECT | GO:0006114 | cometlike   | 0.01011617 | 0.01027155 | 1475 | 113  | 18274 | 1 | 1.6407796   | 1 | 0.12637016  | 66.6119738 |
| 562 | down | GOTERM MF DIRECT | GO:0004552 | microtubule disassembly   | 0.0328053  | 0.07292783 | 1397 | 20   | 16881 | 1 | 3.07234821  | 1 | 0.07702526  | 71.0422079 |
| 563 | down | GOTERM MF DIRECT | GO:0011716 | cellular response to oxidative stress   | 0.0328053  | 0.07292783 | 1397 | 20   | 16792 | 1 | 3.0846894   | 1 | 0.07702526  | 70.9347947 |
| 564 | down | GOTERM MF DIRECT | GO:0000739 | microtubule   | 740598223  | 0.00023216 | 1475 | 1331 | 18274 | 1 | 1.14170001  | 1 | 0.12705421  | 67.6802869 |
| 565 | down | GOTERM MF DIRECT | GO:0001647 | osteoblast differentiation  | 0.84951450 | 0.0390305  | 1391 | 104  | 16792 | 1 | 1.66028285  | 1 | 0.07643436  | 71.9502168 |
| 566 | down | GOTERM MF DIRECT | GO:0004807 | transmembrane transporter activity  | 430282427  | 0.07021188 | 1397 | 730  | 16881 | 1 | 1.20118116  | 1 | 0.06380893  | 73.0076297 |
| 567 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 568 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 569 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 570 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 571 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 572 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 573 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 574 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 575 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 576 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 577 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 578 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 579 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 580 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 581 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 582 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 583 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 584 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 585 | down | GOTERM MF DIRECT | GO:0000165 | transmembrane transporter activity  | 0.1525183  | 0.0105125  | 1397 | 6    | 16881 | 1 | 0.1763425   | 1 | 0.0111255   | 71.0131255 |
| 586 | down | GOTERM MF DIRECT | GO:0004536 | sensor-specific DNA binding   | 3155528906 | 0.00551342 | 1397 | 518  | 16881 | 1 | 1.290461859 | 1 | 0.06177182  | 75.9490101 |
| 587 | down | GOTERM MF DIRECT | GO:0004444 | substrate selection-dependent cell spreading                                  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 588 | down | GOTERM MF DIRECT | GO:0001567 | blood vessel development  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 589 | down | GOTERM MF DIRECT | GO:0000262 | cellular potassium ion homeostasis  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 590 | down | GOTERM MF DIRECT | GO:0000262 | cellular potassium ion homeostasis  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 591 | down | GOTERM MF DIRECT | GO:0000262 | cellular potassium ion homeostasis  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 592 | down | GOTERM MF DIRECT | GO:0001037 | protein polyubiquitination  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 593 | down | GOTERM MF DIRECT | GO:0001037 | protein polyubiquitination  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 594 | down | GOTERM MF DIRECT | GO:0001037 | protein polyubiquitination  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 595 | down | GOTERM MF DIRECT | GO:0001037 | protein polyubiquitination  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 596 | down | GOTERM MF DIRECT | GO:0001647 | osteoblast differentiation  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |
| 597 | down | GOTERM MF DIRECT | GO:0000262 | cellular potassium ion homeostasis  | 0.42421729 | 0.00011382 | 1391 | 38   | 16792 | 1 | 2.272787037 | 1 | 0.07658813  | 80.2422858 |



**Supplementary Table S12:**  
**Genes upregulated and downregulated by both LPA and OP-680,250 treatment**  
*Software: GeneSpring, Version 14.9 (Agilent Technologies, Inc.)*

Moderated *T*-Test, corrected *p*-value cut-off 0.05

Fold change cut-off 2.0

*p*-value computation: Asymptotic

Multiple Testing Correction: Benjamini-Hochberg

| ProbeName       | FC (Up) (log <sub>2</sub> Vs (CoD)) | FC (Down) (log <sub>2</sub> Vs (CoD)) | Log FC (Up) (log <sub>2</sub> Vs (CoD)) | Log FC (Down) (log <sub>2</sub> Vs (CoD)) | FC (Up) (log <sub>2</sub> Vs (CoD)) | FC (Down) (log <sub>2</sub> Vs (CoD)) | Log FC (Up) (log <sub>2</sub> Vs (CoD)) | Log FC (Down) (log <sub>2</sub> Vs (CoD)) | FC (Up) (log <sub>2</sub> Vs (CoD)) | FC (Down) (log <sub>2</sub> Vs (CoD)) | Regulation (log <sub>2</sub> Vs (CoD)) | Regulation (log <sub>2</sub> Vs (CoD)) | FC (Up) (log <sub>2</sub> Vs (CoD)) | FC (Down) (log <sub>2</sub> Vs (CoD)) | GeneSymbol    | Description   |
|-----------------|-------------------------------------|---------------------------------------|---|---|-------------------------------------|---------------------------------------|---|---|-------------------------------------|---------------------------------------|--|--|-------------------------------------|---------------------------------------|---------------|---|
| A_23.P.24452    | 68.988                              | 6.106                                 | 6.082                                   | 6.082                                     | 6.734                               | 6.082                                 | 6.082                                   | 6.082                                     | 6.734                               | 6.082                                 | up                                     | up                                     | 6.769                               | 3.132                                 | LOR           | Homo sapiens lorcin1 (LOR), mRNA [NM_000427]  |
| A_23.P.125880   | 67.754                              | 6.082                                 | 6.082                                   | 6.082                                     | 6.734                               | 6.082                                 | 6.082                                   | 6.082                                     | 6.734                               | 6.082                                 | up                                     | up                                     | 3.156                               | 3.156                                 | TMEM255A      | Homo sapiens transmembrane protein 255A (TMEM255A), transcript variant 1, mRNA [NM_017938]                                  |
| A_33.P.3338208  | 53.108                              | 5.731                                 | 5.731                                   | 5.731                                     | 53.108                              | 5.731                                 | 5.731                                   | 5.731                                     | 53.108                              | 5.731                                 | up                                     | up                                     | 4.821                               | 2.208                                 | PAD11         | Homo sapiens peptidyl arginine deiminase, type I (PAD11), mRNA [NM_013358]  |
| A_23.P.63209    | 40.588                              | 5.343                                 | 5.343                                   | 5.343                                     | 40.588                              | 5.343                                 | 5.343                                   | 5.343                                     | 40.588                              | 5.343                                 | up                                     | up                                     | 3.666                               | 1.874                                 | HSD11B1       | Homo sapiens hydroxysteroid (11-beta) dehydrogenase 1 (HSD11B1), transcript variant 2, mRNA [NM_181735]                     |
| A_19.P.00021124 | 18.384                              | 4.201                                 | 4.201                                   | 4.201                                     | 18.384                              | 4.201                                 | 4.201                                   | 4.201                                     | 18.384                              | 4.201                                 | up                                     | up                                     | 4.857                               | 2.280                                 | LINC01468     | Homo sapiens long intergenic non-protein coding RNA 1468 (LINC01468), transcript variant 1, long non-coding RNA [NR_120641] |
| A_22.P.00018268 | 17.352                              | 4.117                                 | 4.117                                   | 4.117                                     | 17.352                              | 4.117                                 | 4.117                                   | 4.117                                     | 17.352                              | 4.117                                 | up                                     | up                                     | 3.155                               | 1.658                                 | LOC101928824  | PREDICTED: Homo sapiens uncharacterized LOC101928824 (LOC101928824), ncRNA [XR_244407]                                      |
| A_22.P.00099880 | 15.090                              | 3.915                                 | 3.915                                   | 3.915                                     | 15.090                              | 3.915                                 | 3.915                                   | 3.915                                     | 15.090                              | 3.915                                 | up                                     | up                                     | 3.545                               | 1.826                                 | LINC01468     | Homo sapiens long intergenic non-protein coding RNA 1468 (LINC01468), transcript variant 1, long non-coding RNA [NR_120641] |
| A_33.P.3324748  | 12.477                              | 3.641                                 | 3.641                                   | 3.641                                     | 12.477                              | 3.641                                 | 3.641                                   | 3.641                                     | 12.477                              | 3.641                                 | up                                     | up                                     | 3.762                               | 1.912                                 | LOC101928824  | PREDICTED: Homo sapiens uncharacterized LOC101928824 (LOC101928824), ncRNA [XR_244407]                                      |
| A_23.P.74039    | 11.388                              | 3.509                                 | 3.509                                   | 3.509                                     | 11.388                              | 3.509                                 | 3.509                                   | 3.509                                     | 11.388                              | 3.509                                 | up                                     | up                                     | 2.960                               | 1.356                                 | GGS2          | Homo sapiens GGS2/G1 switch 2 (GGS2), mRNA [NM_015714]  |
| A_33.P.3308862  | 11.106                              | 3.473                                 | 3.473                                   | 3.473                                     | 11.106                              | 3.473                                 | 3.473                                   | 3.473                                     | 11.106                              | 3.473                                 | up                                     | up                                     | 4.307                               | 2.107                                 | NUTM2B        | Homo sapiens NUT family member 2B (NUTM2B), mRNA [NM_001278495]   |
| A_19.P.00803039 | 10.920                              | 3.449                                 | 3.449                                   | 3.449                                     | 10.920                              | 3.449                                 | 3.449                                   | 3.449                                     | 10.920                              | 3.449                                 | up                                     | up                                     | 4.324                               | 2.112                                 | LOC100130476  | Homo sapiens uncharacterized LOC100130476 (LOC100130476), long non-coding RNA [NR_049793]                                   |
| A_22.P.00012154 | 10.535                              | 3.397                                 | 3.397                                   | 3.397                                     | 10.535                              | 3.397                                 | 3.397                                   | 3.397                                     | 10.535                              | 3.397                                 | up                                     | up                                     | 4.714                               | 2.237                                 | GFPF93        | GFPF93, GLOX (GFP93), Manganese transport protein MntH, partial (5%), [THC573915]   |
| A_32.P.387648   | 10.471                              | 3.388                                 | 3.388                                   | 3.388                                     | 10.471                              | 3.388                                 | 3.388                                   | 3.388                                     | 10.471                              | 3.388                                 | up                                     | up                                     | 6.353                               | 2.667                                 | FLG           | Homo sapiens flaggrin (FLG), mRNA [NM_002016]   |
| A_24.P.51922    | 8.661                               | 3.115                                 | 3.115                                   | 3.115                                     | 8.661                               | 3.115                                 | 3.115                                   | 3.115                                     | 8.661                               | 3.115                                 | up                                     | up                                     | 6.528                               | 2.707                                 | FLG           | Homo sapiens flaggrin (FLG), mRNA [NM_002016]   |
| A_23.P.153480   | 8.467                               | 3.062                                 | 3.062                                   | 3.062                                     | 8.467                               | 3.062                                 | 3.062                                   | 3.062                                     | 8.467                               | 3.062                                 | up                                     | up                                     | 2.308                               | 1.207                                 | KLK5          | Homo sapiens kallikrein-related peptidase 5 (KLK5), transcript variant 1, mRNA [NM_012427]                                  |
| A_33.P.3261328  | 7.476                               | 2.902                                 | 2.902                                   | 2.902                                     | 7.476                               | 2.902                                 | 2.902                                   | 2.902                                     | 7.476                               | 2.902                                 | up                                     | up                                     | 5.973                               | 2.578                                 | FLG           | Homo sapiens flaggrin (FLG), mRNA [NM_002016]   |
| A_23.P.62709    | 6.713                               | 2.747                                 | 2.747                                   | 2.747                                     | 6.713                               | 2.747                                 | 2.747                                   | 2.747                                     | 6.713                               | 2.747                                 | up                                     | up                                     | 4.191                               | 2.067                                 | SPRR3         | Homo sapiens small proline-rich protein 3 (SPRR3), transcript variant 1, mRNA [NM_005416]                                   |
| A_33.P.3336866  | 5.776                               | 2.530                                 | 2.530                                   | 2.530                                     | 5.776                               | 2.530                                 | 2.530                                   | 2.530                                     | 5.776                               | 2.530                                 | up                                     | up                                     | 2.159                               | 1.110                                 | CLIC3         | Homo sapiens chloride intracellular channel 3 (CLIC3), mRNA [NM_004669]   |
| A_33.P.2255384  | 5.625                               | 2.492                                 | 2.492                                   | 2.492                                     | 5.625                               | 2.492                                 | 2.492                                   | 2.492                                     | 5.625                               | 2.492                                 | up                                     | up                                     | 2.662                               | 1.413                                 | BRF1C         | Homo sapiens BRF1 fold containing family C (BRF1C), mRNA [NM_174832]  |
| A_23.P.13084    | 5.424                               | 2.439                                 | 2.439                                   | 2.439                                     | 5.424                               | 2.439                                 | 2.439                                   | 2.439                                     | 5.424                               | 2.439                                 | up                                     | up                                     | 3.672                               | 1.877                                 | MMP10         | Homo sapiens matrix metalloproteinase 10 (stromelysin 2) (MMP10), mRNA [NM_002423]  |
| A_23.P.26511    | 5.348                               | 2.419                                 | 2.419                                   | 2.419                                     | 5.348                               | 2.419                                 | 2.419                                   | 2.419                                     | 5.348                               | 2.419                                 | up                                     | up                                     | 2.990                               | 1.580                                 | GDPD3         | Homo sapiens glycerophosphodiester phosphodiesterase domain containing 3 (GDPD3), mRNA [NM_024307]                          |
| A_23.P.257003   | 4.911                               | 2.296                                 | 2.296                                   | 2.296                                     | 4.911                               | 2.296                                 | 2.296                                   | 2.296                                     | 4.911                               | 2.296                                 | up                                     | up                                     | 3.470                               | 1.795                                 | PCSK5         | Homo sapiens proprotein convertase subtilisin/kexin type 5 (PCSK5), transcript variant 2, mRNA [NM_006500]                  |
| A_23.P.79518    | 3.724                               | 1.897                                 | 1.897                                   | 1.897                                     | 3.724                               | 1.897                                 | 1.897                                   | 1.897                                     | 3.724                               | 1.897                                 | up                                     | up                                     | 2.605                               | 1.381                                 | IL1B          | Homo sapiens interleukin 1, beta (IL1B), mRNA [NM_000576]   |
| A_23.P.348463   | 3.665                               | 1.874                                 | 1.874                                   | 1.874                                     | 3.665                               | 1.874                                 | 1.874                                   | 1.874                                     | 3.665                               | 1.874                                 | up                                     | up                                     | 4.540                               | 2.183                                 | CHP2          | Homo sapiens calcineurin-like EF-hand protein 2 (CHP2), mRNA [NM_022097]  |
| A_23.P.134835   | 3.656                               | 1.870                                 | 1.870                                   | 1.870                                     | 3.656                               | 1.870                                 | 1.870                                   | 1.870                                     | 3.656                               | 1.870                                 | up                                     | up                                     | 3.734                               | 1.901                                 | CSGALNACT1    | Homo sapiens chondroitin sulfate N-acetylglucosaminyltransferase 1 (CSGALNACT1), transcript variant 2, mRNA [NM_018371]     |
| A_33.P.3249534  | 3.540                               | 1.824                                 | 1.824                                   | 1.824                                     | 3.540                               | 1.824                                 | 1.824                                   | 1.824                                     | 3.540                               | 1.824                                 | up                                     | up                                     | 2.163                               | 1.113                                 | NEFM          | Homo sapiens neurofilament, medium polypeptide (NEFM), transcript variant 1, mRNA [NM_005382]                               |
| A_33.P.3327831  | 3.528                               | 1.819                                 | 1.819                                   | 1.819                                     | 3.528                               | 1.819                                 | 1.819                                   | 1.819                                     | 3.528                               | 1.819                                 | up                                     | up                                     | 2.133                               | 1.093                                 | GENPM         | centromere protein M [Source:HGNC Symbol;Acc:HGNC:18352] [ENST00000402338]  |
| A_33.P.367256   | 3.204                               | 1.680                                 | 1.680                                   | 1.680                                     | 3.204                               | 1.680                                 | 1.680                                   | 1.680                                     | 3.204                               | 1.680                                 | up                                     | up                                     | 2.921                               | 1.547                                 | LOC284561     | PREDICTED: Homo sapiens uncharacterized LOC284561 (LOC284561), misc. RNA [XR_110828]  |
| A_33.P.3308183  | 2.723                               | 1.445                                 | 1.445                                   | 1.445                                     | 2.723                               | 1.445                                 | 1.445                                   | 1.445                                     | 2.723                               | 1.445                                 | up                                     | up                                     | 2.679                               | 1.422                                 | PNLIPRP3      | Homo sapiens pancreatic lipase-related protein 3 (PNLIPRP3), mRNA [NM_00101706]   |
| A_21.P.00009922 | 2.604                               | 1.381                                 | 1.381                                   | 1.381                                     | 2.604                               | 1.381                                 | 1.381                                   | 1.381                                     | 2.604                               | 1.381                                 | up                                     | up                                     | 3.879                               | 1.956                                 | LOC101927787  | Homo sapiens uncharacterized LOC101927787 (LOC101927787), long non-coding RNA [NR_123944]                                   |
| A_33.P.3379141  | 2.582                               | 1.368                                 | 1.368                                   | 1.368                                     | 2.582                               | 1.368                                 | 1.368                                   | 1.368                                     | 2.582                               | 1.368                                 | up                                     | up                                     | 2.597                               | 1.377                                 | HIST1H2AFS1   | Homo sapiens histone cluster 1, H2a, pseudogene 1 (HIST1H2AFS1), non-coding RNA [NR_045125]                                 |
| A_21.P.0010029  | 2.148                               | 1.103                                 | 1.103                                   | 1.103                                     | 2.148                               | 1.103                                 | 1.103                                   | 1.103                                     | 2.148                               | 1.103                                 | up                                     | up                                     | 2.324                               | 1.217                                 | Inc-FAM182B-1 | LINC01928824, lincRNA [inc-FAM182B-1]   |
| A_33.P.3345108  | 2.059                               | 1.042                                 | 1.042                                   | 1.042                                     | 2.059                               | 1.042                                 | 1.042                                   | 1.042                                     | 2.059                               | 1.042                                 | up                                     | up                                     | 2.187                               | 1.129                                 | Inc-FAM182B-1 | LINC01928824, lincRNA [inc-FAM182B-1]   |
| A_23.P.168824   | -125.980                            | -6.970                                | -6.970                                  | -6.970                                    | -125.980                            | -6.970                                | -6.970                                  | -6.970                                    | -125.980                            | -6.970                                | down                                   | down                                   | -107.558                            | -6.749                                | TNFAIP6       | Homo sapiens tumor necrosis factor, alpha-induced protein 6 (TNFAIP6), mRNA [NM_007115]                                     |
| A_33.P.3285540  | -110.858                            | -6.786                                | -6.786                                  | -6.786                                    | -110.858                            | -6.786                                | -6.786                                  | -6.786                                    | -110.858                            | -6.786                                | down                                   | down                                   | -45.029                             | -5.493                                | CLDN5         | Homo sapiens claudin 5 (CLDN5), transcript variant 1, mRNA [NM_001130861]   |
| A_23.P.121253   | -89.762                             | -6.488                                | -6.488                                  | -6.488                                    | -89.762                             | -6.488                                | -6.488                                  | -6.488                                    | -89.762                             | -6.488                                | down                                   | down                                   | -2.350                              | -1.232                                | TNFSF10       | Homo sapiens tumor necrosis factor (ligand) superfamily, member 10 (TNFSF10), transcript variant 1, mRNA [NM_003810]        |
| A_33.P.3226810  | -81.919                             | -6.356                                | -6.356                                  | -6.356                                    | -81.919                             | -6.356                                | -6.356                                  | -6.356                                    | -81.919                             | -6.356                                | down                                   | down                                   | -2.825                              | -1.382                                | TNFSF10       | Homo sapiens tumor necrosis factor (ligand) superfamily, member 10 (TNFSF10), transcript variant 1, mRNA [NM_003810]        |
| A_23.P.124642   | -58.586                             | -5.872                                | -5.872                                  | -5.872                                    | -58.586                             | -5.872                                | -5.872                                  | -5.872                                    | -58.586                             | -5.872                                | down                                   | down                                   | -5.186                              | -2.375                                | RASGRP1       | Homo sapiens RAS guanyl releasing protein 1 (calcium and DAG-regulated) (RASGRP1), transcript variant 1, mRNA [NM_005739]   |
| A_24.P.339429   | -57.162                             | -5.837                                | -5.837                                  | -5.837                                    | -57.162                             | -5.837                                | -5.837                                  | -5.837                                    | -57.162                             | -5.837                                | down                                   | down                                   | -21.460                             | -4.424                                | KONJ12        | Homo sapiens potassium channel, inwardly rectifying subfamily J, member 12 (KCNJ12), mRNA [NM_021012]                       |
| A_23.P.88878    | -47.849                             | -5.580                                | -5.580                                  | -5.580                                    | -47.849                             | -5.580                                | -5.580                                  | -5.580                                    | -47.849                             | -5.580                                | down                                   | down                                   | -4.741                              | -2.245                                | C15orf27      | Homo sapiens chromosome 15 open reading frame 27 (C15orf27), mRNA [NM_126339]   |
| A_33.P.3338484  | -43.752                             | -5.451                                | -5.451                                  | -5.451                                    | -43.752                             | -5.451                                | -5.451                                  | -5.451                                    | -43.752                             | -5.451                                | down                                   | down                                   | -12.652                             | -9.661                                | DSG1-AS1      | Homo sapiens DSG1 antisense RNA 1 (DSG1-AS1), transcript variant 1, long non-coding RNA [NR_110788]                         |

|                 |         |        |        |      |         |        |        |             |      |  |
|-----------------|---------|--------|--------|------|---------|--------|--------|-------------|------|--|
| A.23.P.00005389 | -40.043 | -5.323 | 40.043 | down | -5.870  | -2.553 | 5.870  | DSG1-AS1    | Down | Homo sapiens DSG1 antisense RNA 1 (DSG1-AS1), transcript variant 1, long non-coding RNA [NR_110788]                            |
| A.2.LP.0000120  | -30.909 | -4.950 | 30.909 | down | -10.103 | -3.337 | 10.103 | KCNJ18      | down | Homo sapiens potassium channel, inwardly rectifying subfamily J, member 18 (KCNJ18), mRNA [NM_001194958]                       |
| A.23.P.57118    | -26.901 | -4.750 | 26.901 | down | -12.958 | -3.696 | 12.958 | TM33        | down | Homo sapiens transducin-like kinase 3 (TM33), mRNA [NM_003245]   |
| A.33.P.221161   | -24.345 | -4.606 | 24.345 | down | -3.881  | -1.956 | 3.881  | LOC388780   | down | Homo sapiens uncharacterized LOC388780 (LOC388780), mRNA [NM_001287682]  |
| A.23.P.0007025  | -19.985 | -4.282 | 19.985 | down | -2.636  | -1.398 | 2.636  | hcc-FGF2P-2 | down | hcc-FGF2P-2, lncRNA [nc-FGF2P-2]   |
| A.23.P.213484   | -19.977 | -4.281 | 19.977 | down | -3.152  | -4.993 | 3.152  | COL26       | down | Homo sapiens chromosome C-C motif ligand 26 (COL26), mRNA [NM_008972]  |
| A.23.P.105251   | -18.831 | -4.235 | 18.831 | down | -3.915  | -1.969 | 3.915  | GLTI        | down | Homo sapiens GLI family zinc finger 1 (GLTI), transcript variant 1, mRNA [NM_005269]   |
| A.24.P.328524   | -18.722 | -4.227 | 18.722 | down | -7.988  | -3.000 | 7.988  | KALRN       | down | Homo sapiens Kalfirin, RhoGEF kinase (KALRN), transcript variant 2, mRNA [NM_003947]   |
| A.23.P.90386    | -18.616 | -4.054 | 18.616 | down | -4.052  | -2.019 | 4.052  | TNFSF11     | down | Homo sapiens tumor necrosis factor (ligand) superfamily, member 11 (TNFSF11), transcript variant 1, mRNA [NM_002701]           |
| A.22.P.00011372 | -15.911 | -3.992 | 15.911 | down | -2.435  | -1.284 | 2.435  | NTRK1       | down | Homo sapiens neurotrophic tyrosine kinase, receptor, type 1 (NTRK1), transcript variant 2, mRNA [NM_002529]                    |
| A.24.P.265606   | -15.833 | -3.985 | 15.833 | down | -67.294 | -6.072 | 67.294 | ROR2        | down | Homo sapiens receptor tyrosine kinase-like orphan receptor 2 (ROR2), mRNA [NM_004560]  |
| A.23.P.158318   | -14.891 | -3.886 | 14.891 | down | -4.540  | -2.183 | 4.540  | GGTA1P      | down | Homo sapiens glycoprotein, alpha-galactosyltransferase 1 pseudogene (GGTA1P), transcript variant 1, non-coding RNA [NR_003191] |
| A.23.P.2257223  | -14.256 | -3.833 | 14.256 | down | -8.318  | -2.660 | 8.318  | DPP4        | down | Homo sapiens dipeptidyl peptidase 4 (DPP4), mRNA [NM_001936]   |
| A.24.P.87036    | -14.071 | -3.815 | 14.071 | down | -12.236 | -3.613 | 12.236 | ANO1        | down | Homo sapiens anandamide 1, calcium activated chloride channel (ANO1), transcript variant 1, mRNA [NM_018045]                   |
| A.32.P.59302    | -13.733 | -3.780 | 13.733 | down | -10.432 | -3.383 | 10.432 | HIVEP3      | down | Homo sapiens human immunodeficiency virus type 1 enhancer binding protein 3 (HIVEP3), transcript variant 1, mRNA [NM_024503]   |
| A.33.P.3342528  | -13.097 | -3.711 | 13.097 | down | -2.752  | -1.461 | 2.752  | P2RY1       | down | Homo sapiens purinergic receptor P2Y, G-protein coupled, 1 (P2RY1), mRNA [NM_002663]   |
| A.23.P.94817    | -12.835 | -3.682 | 12.835 | down | -8.263  | -2.644 | 8.263  | BRINP1      | down | Homo sapiens bone morphogenetic protein/rethroid acid inducible neural-specific 1 (BRINP1), mRNA [NM_014618]                   |
| A.23.P.862835   | -12.583 | -3.651 | 12.583 | down | -3.098  | -1.631 | 3.098  | P2RY1       | down | Homo sapiens purinergic receptor P2Y, G-protein coupled, 1 (P2RY1), mRNA [NM_002663]   |
| A.23.P.79978    | -10.829 | -3.437 | 10.829 | down | -4.911  | -2.296 | 4.911  | SLC24A3     | down | Homo sapiens solute carrier family 24 (sodium/potassium/calcium exchanger), member 3 (SLC24A3), mRNA [NM_026889]               |
| A.33.P.3417150  | -10.730 | -3.424 | 10.730 | down | -2.907  | -1.539 | 2.907  | P2RY1       | down | Homo sapiens purinergic receptor P2Y, G-protein coupled, 1 (P2RY1), mRNA [NM_002663]   |
| A.23.P.59410    | -10.011 | -3.324 | 10.011 | down | -8.340  | -3.060 | 8.340  | KIF25       | down | Homo sapiens kinesin family member 25 (KIF25), transcript variant 1, mRNA [NM_030613]  |
| A.24.P.217572   | -9.692  | -3.277 | 9.692  | down | -6.139  | -2.618 | 6.139  | EDNRA       | down | Homo sapiens endothelin receptor type A (EDNRA), transcript variant 1, mRNA [NM_001957]  |
| A.33.P.3413355  | -9.484  | -3.247 | 9.484  | down | -3.102  | -1.633 | 3.102  | CHST1       | down | Homo sapiens carbohydrate (keratan sulfate Gal-6) sulfotransferase 1 (CHST1), mRNA [NM_003654]                                 |
| A.23.P.12082    | -9.469  | -3.243 | 9.469  | down | -3.890  | -1.960 | 3.890  | CHI3L2      | down | Homo sapiens chitinase 3-like 2 (CHI3L2), transcript variant 3, mRNA [NM_00129199]   |
| A.23.P.91980    | -9.395  | -3.232 | 9.395  | down | -3.374  | -1.754 | 3.374  | THBD        | down | Homo sapiens thrombospondin (THBD), mRNA [NM_000361]   |
| A.23.P.123596   | -9.111  | -3.188 | 9.111  | down | -3.863  | -1.950 | 3.863  | GLDC        | down | Homo sapiens glycine dehydrogenase (decarboxylating) (GLDC), mRNA [NM_000170]  |
| A.23.P.91910    | -8.391  | -3.089 | 8.391  | down | -4.129  | -2.046 | 4.129  | PLSCR4      | down | Homo sapiens phospholipid scramblase 4 (PLSCR4), transcript variant 2, mRNA [NM_020553]  |
| A.23.P.80027    | -8.215  | -3.038 | 8.215  | down | -4.542  | -2.183 | 4.542  | ALOX15B     | down | Homo sapiens arachidonate 15-lipoxygenase, type B (ALOX15B), transcript variant 4, mRNA [NM_001141]                            |
| A.23.P.138990   | -7.736  | -2.951 | 7.736  | down | -24.845 | -4.635 | 24.845 | SLC02A1     | down | Homo sapiens solute carrier organic anion transporter family, member 2A1 (SLC02A1), mRNA [NM_005830]                           |
| A.2.LP.0000173  | -7.666  | -2.939 | 7.666  | down | -2.049  | -1.035 | 2.049  | C5orf56     | down | Homo sapiens chromosome 5 open reading frame 56 (C5orf56), long non-coding RNA [NR_045116]                                     |
| A.23.P.54144    | -7.541  | -2.915 | 7.541  | down | -3.078  | -1.622 | 3.078  | BMP4        | down | Homo sapiens bone morphogenetic protein-4 (BMP4), transcript variant 1, mRNA [NM_001202]                                       |
| A.23.P.67971    | -6.839  | -2.774 | 6.839  | down | -2.299  | -1.201 | 2.299  | GALM        | down | Homo sapiens galactose mutarotase (aldose 1-epimerase) (GALM), mRNA [NM_138011]  |
| A.23.P.152865   | -6.709  | -2.746 | 6.709  | down | -8.112  | -3.020 | 8.112  | TNC         | down | Homo sapiens tenascin C (TNC), mRNA [NM_002160]  |
| A.23.P.41765    | -6.418  | -2.682 | 6.418  | down | -2.905  | -1.325 | 2.905  | IRF1        | down | Homo sapiens interferon regulatory factor 1 (IRF1), mRNA [NM_002193]   |
| A.33.P.227400   | -6.318  | -2.659 | 6.318  | down | -6.635  | -2.750 | 6.635  | COL4A4      | down | Homo sapiens collagen, type IV, alpha 4 (COL4A4), mRNA [NM_000092]   |
| A.24.P.288890   | -6.298  | -2.655 | 6.298  | down | -9.341  | -3.224 | 9.341  | FAM101A     | down | Homo sapiens family with sequence similarity 101, member A (FAM101A), mRNA [NM_181709]   |
| A.24.P.88828    | -5.804  | -2.537 | 5.804  | down | -8.983  | -3.187 | 8.983  | STRGAL1     | down | Homo sapiens STB beta-galactosidase alpha-2,6-sialyltransferase 1 (ST6GAL1), transcript variant 1, mRNA [NM_173216]            |
| A.24.P.10233    | -5.801  | -2.536 | 5.801  | down | -3.239  | -1.696 | 3.239  | DAPK2       | down | Homo sapiens death-associated protein kinase 2 (DAPK2), mRNA [NM_014326]   |
| A.24.P.941167   | -5.436  | -2.443 | 5.436  | down | -2.006  | -1.005 | 2.006  | APOL6       | down | Homo sapiens apolipoprotein L 6 (APOL6), mRNA [NM_030641]  |
| A.33.P.348646   | -5.426  | -2.440 | 5.426  | down | -4.311  | -2.108 | 4.311  | LOC151857   | down | Homo sapiens cDNA FLJ33795 fs, clone CTONG100097 [AK091114]  |
| A.33.P.126869   | -5.330  | -2.414 | 5.330  | down | -6.786  | -2.763 | 6.786  | PAD3        | down | Homo sapiens peptidyl arginine deiminase, type III (PAD3), mRNA [NM_016233]  |
| A.24.P.183854   | -4.967  | -2.312 | 4.967  | down | -2.013  | -1.009 | 2.013  | DMD         | down | Homo sapiens dystrophin (DMD), transcript variant Dp427a2, mRNA [NM_004101]  |
| A.23.P.348555   | -4.590  | -2.199 | 4.590  | down | -2.284  | -1.191 | 2.284  | NEDD9       | down | Homo sapiens neural precursor cell expressed, developmentally down-regulated 9 (NEDD9), transcript variant 1, mRNA [NM_006403] |
| A.23.P.121584   | -4.583  | -2.196 | 4.583  | down | -9.389  | -3.231 | 9.389  | NM1T        | down | Homo sapiens nicotinamide N-methyltransferase (NM1T), mRNA [NM_006169]   |
| A.33.P.3330443  | -4.541  | -2.183 | 4.541  | down | -2.422  | -1.276 | 2.422  | FAM110B     | down | Homo sapiens family with sequence similarity 110, member B (FAM110B), mRNA [NM_147139]   |
| A.33.P.3374289  | -4.416  | -2.143 | 4.416  | down | -3.853  | -1.963 | 3.853  | C10orf82    | down | Homo sapiens chromosome 10 open reading frame 82 (C10orf82), mRNA [NM_144681]  |

|                 |        |        |       |      |         |        |        |               |   |
|-----------------|--------|--------|-------|------|---------|--------|--------|---------------|---|
| A.33.P.3292394  | -4.413 | -2.142 | 4.413 | down | -5.247  | -2.392 | 5.247  | GADD45G       | Homo sapiens growth arrest and DNA-damage-inducible, gamma (GADD45G), mRNA [NM_006705]  |
| A.33.P.3304056  | -4.355 | -2.123 | 4.355 | down | -2.819  | -1.495 | 2.819  | PRSS53        | Homo sapiens protease, serine, 53 (PRSS53), mRNA [NM_001036503]   |
| A.23.P.3930334  | -4.271 | -2.095 | 4.271 | down | -4.425  | -2.146 | 4.425  | HAS3          | Homo sapiens hyaluronan synthase 3 (HAS3), transcript variant 1, mRNA [NM_005328]   |
| A.23.P.39396    | -4.204 | -2.072 | 4.204 | down | -6.817  | -2.769 | 6.817  | CIQTNF1       | Homo sapiens C1q and tumor necrosis factor related protein 1 (CIQTNF1), transcript variant 4, mRNA [NM_198594]  |
| A.23.P.24884    | -4.200 | -2.070 | 4.200 | down | -2.747  | -1.458 | 2.747  | ST5           | Homo sapiens suppression of tumorigenesis 5 (ST5), transcript variant 1, mRNA [NM_005418]   |
| A.19.P.00811717 | -4.164 | -2.058 | 4.164 | down | -3.572  | -1.837 | 3.572  | GDH3          | cadherin-related family member 3 [Source:HGNC Symbol;Acc:HGNC:28308] (ENST00000488386)  |
| A.23.P.114657   | -4.142 | -2.050 | 4.142 | down | -2.317  | -1.213 | 2.317  | SEMA4C        | Homo sapiens sema domain, immunoglobulin domain (Ig), transmembrane domain (TM), and short cytoplasmic domain, semaphorin 4C (SEMA4C), mRNA [NM_017189]                           |
| A.21.P.0013283  | -4.079 | -2.028 | 4.079 | down | -3.277  | -1.712 | 3.277  | XLOC12.013730 | BROAD Institute linearRNA (XLOC12.013730), lincRNA [TCOONS12_00264402]  |
| A.23.P.39372    | -4.065 | -2.023 | 4.065 | down | -3.240  | -1.696 | 3.240  | CA2           | Homo sapiens carbonic anhydrase II (CA2), transcript variant 1, mRNA [NM_000067]  |
| A.23.P.319617   | -4.058 | -2.021 | 4.058 | down | -3.405  | -1.788 | 3.405  | HST7          | Homo sapiens carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 7 (HST7), mRNA [NM_019886]   |
| A.23.P.64721    | -4.020 | -2.007 | 4.020 | down | -2.299  | -1.201 | 2.299  | HCF43         | Homo sapiens hydroxycarboxylic acid receptor 3 (HCF43), mRNA [NM_006018]  |
| A.23.P.44899    | -4.019 | -2.007 | 4.019 | down | -2.600  | -1.378 | 2.600  | ABCC2         | Homo sapiens ATP-binding cassette, sub-family C (CFTR/MRP), member 2 (ABCC2), mRNA [NM_000392]  |
| A.33.P.327447   | -3.914 | -1.969 | 3.914 | down | -2.787  | -1.479 | 2.787  | SLC26A2       | Homo sapiens solute carrier family 26 (anion exchanger), member 2 (SLC26A2), mRNA [NM_000112]   |
| A.23.P.621196   | -3.881 | -1.956 | 3.881 | down | -5.743  | -2.522 | 5.743  | SOCS1         | Homo sapiens suppressor of cytokine signaling 1 (SOCS1), mRNA [NM_002745]   |
| A.33.P.328952   | -3.863 | -1.950 | 3.863 | down | -2.822  | -1.567 | 2.822  | EGLN3         | Homo sapiens egl-9 family hypoxia-inducible factor 3 (EGLN3), mRNA [NM_022073]  |
| A.23.P.203972   | -3.858 | -1.948 | 3.858 | down | -3.533  | -1.821 | 3.533  | FZD10         | Homo sapiens frizzled class receptor 10 (FZD10), mRNA [NM_007197]   |
| A.23.P.6935     | -3.843 | -1.942 | 3.843 | down | -2.236  | -1.161 | 2.236  | CD47          | Homo sapiens CD47 molecule (CD47), transcript variant 2, mRNA [NM_198793]   |
| A.23.P.207319   | -3.713 | -1.892 | 3.713 | down | -2.979  | -1.575 | 2.979  | MAP3K14       | Homo sapiens mitogen-activated protein kinase kinase kinase 14 (MAP3K14), mRNA [NM_003954]  |
| A.23.P.0008159  | -3.703 | -1.889 | 3.703 | down | -4.843  | -2.215 | 4.843  | LRAT          | Homo sapiens lecithin retinol acyltransferase (phosphatidylcholine--retinol O-acyltransferase) (LRAT), transcript variant 1, mRNA [NM_004744]                                     |
| A.32.P.113066   | -3.572 | -1.837 | 3.572 | down | -2.784  | -1.477 | 2.784  | DPYD          | Homo sapiens dihydropyrimidine dehydrogenase (DPYD), transcript variant 1, mRNA [NM_000110]   |
| A.23.P.135646   | -3.546 | -1.826 | 3.546 | down | -4.753  | -2.249 | 4.753  | LOC100896348  | Homo sapiens uncharacterized LOC100896348 (LOC100896348), transcript variant 1, long non-coding RNA [NR_121630]   |
| A.23.P.0003189  | -3.516 | -1.814 | 3.516 | down | -2.188  | -1.190 | 2.188  | IL4I1         | Homo sapiens interleukin 4 induced 1 (IL4I1), transcript variant 1, mRNA [NM_152699]  |
| A.33.P.9406424  | -3.464 | -1.792 | 3.464 | down | -5.157  | -2.367 | 5.157  | SLC26A4       | Homo sapiens solute carrier family 26 (anion exchanger), member 4 (SLC26A4), mRNA [NM_009441]   |
| A.23.P.331560   | -3.374 | -1.755 | 3.374 | down | -4.859  | -2.281 | 4.859  | GADD45G       | Homo sapiens growth arrest and DNA-damage-inducible, gamma (GADD45G), mRNA [NM_006705]  |
| A.22.P.00095067 | -3.319 | -1.731 | 3.319 | down | -3.436  | -1.781 | 3.436  | KAL1          | Homo sapiens Kallmann syndrome 1 sequence (KAL1), mRNA [NM_002116]  |
| A.24.P.120834   | -3.258 | -1.704 | 3.258 | down | -6.253  | -2.645 | 6.253  | FZD10-AS1     | Homo sapiens FZD10 antisense RNA 1 (head to head) (FZD10-AS1), long non-coding RNA [NR_033834]  |
| A.23.P.429950   | -3.240 | -1.696 | 3.240 | down | -3.948  | -1.961 | 3.948  | COL3          | Homo sapiens chondrin (C-C motif) ligand 3 (COL3), mRNA [NM_002983]   |
| A.22.P.00016315 | -3.196 | -1.676 | 3.196 | down | -2.626  | -1.393 | 2.626  | IL27RA        | Homo sapiens interleukin 27 receptor, alpha (IL27RA), mRNA [NM_004843]  |
| A.33.P.3316273  | -3.009 | -1.589 | 3.009 | down | -6.851  | -2.776 | 6.851  | TCAP2         | Homo sapiens family with sequence similarity 115, member C (FAM115C), transcript variant 2, mRNA [NM_173678]  |
| A.23.P.27606    | -2.954 | -1.563 | 2.954 | down | -2.633  | -1.397 | 2.633  | OMP2          | Homo sapiens cytidine monophosphate (UMP-CMP) kinase 2, mitochondrial (CMPK2), transcript variant 1, mRNA [NM_207315]   |
| A.32.P.214925   | -2.881 | -1.531 | 2.881 | down | -12.125 | -3.600 | 12.125 | SEMA5A        | Homo sapiens sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, semaphorin 5A (SEMA5A), mRNA [NM_003866] |
| A.33.P.3401826  | -2.764 | -1.466 | 2.764 | down | -4.940  | -2.305 | 4.940  | CDCA5         | Homo sapiens cell division cycle 45 (CDC45), transcript variant 2, mRNA [NM_003504]   |
| A.33.P.3372727  | -2.744 | -1.456 | 2.744 | down | -2.290  | -1.195 | 2.290  | PCDH7         | Homo sapiens protocadherin 7 (PCDH7), transcript variant 3, mRNA [NM_002959]  |
| A.23.P.575719   | -2.707 | -1.437 | 2.707 | down | -12.287 | -3.619 | 12.287 | CISH          | Homo sapiens cytokine inducible SH2-containing protein (CISH), transcript variant 2, mRNA [NM_145071]   |
| A.33.P.3309646  | -2.674 | -1.419 | 2.674 | down | -3.040  | -1.604 | 3.040  | SLC22A4       | Homo sapiens solute carrier family 22 (organic cation/zwitterion transporter), member 4 (SLC22A4), mRNA [NM_003059]   |
| A.23.P.144096   | -2.641 | -1.401 | 2.641 | down | -5.051  | -2.337 | 5.051  | LRG1          | Homo sapiens leucine-rich alpha-2-glycoprotein 1 (LRG1), mRNA [NM_052972]   |
| A.23.P.156180   | -2.569 | -1.381 | 2.569 | down | -2.531  | -1.340 | 2.531  | DUOX2         | Homo sapiens dual oxidase maturation factor 2 (DUOX2), mRNA [NM_207581]   |
| A.23.P.50638    | -2.500 | -1.322 | 2.500 | down | -2.507  | -1.326 | 2.507  | DUOX1         | Homo sapiens dual oxidase 1 (DUOX1), transcript variant 1, mRNA [NM_176039]   |
| A.33.P.320443   | -2.495 | -1.319 | 2.495 | down | -2.729  | -1.449 | 2.729  | AGP1          | Homo sapiens aquaporin 1 (AGP1), mRNA [NM_176039]   |
| A.23.P.417974   | -2.456 | -1.296 | 2.456 | down | -2.445  | -1.290 | 2.445  | DUOX1         | Homo sapiens dual oxidase 1 (DUOX1), transcript variant 1, mRNA [NM_017434]   |
| A.23.P.54721    | -2.155 | -1.108 | 2.155 | down | -2.781  | -1.476 | 2.781  | SECTM1        | Homo sapiens secreted and transmembrane 1 (SECTM1), mRNA [NM_003004]  |
| A.24.P.48204    | -2.096 | -1.067 | 2.096 | down | -4.996  | -2.321 | 4.996  | OAS2          | Homo sapiens 2'-5'-oligoadenylate synthetase 2, 89/71kDa (OAS2), transcript variant 2, mRNA [NM_002535]   |
| A.33.P.3265512  | -2.084 | -1.000 | 2.084 | down | -2.603  | -1.380 | 2.603  | TTYH2         | Homo sapiens sweetie family member 2 (TTYH2), transcript variant 1, mRNA [NM_032646]  |
| A.23.P.66432    | -2.053 | -1.038 | 2.053 | down | -3.643  | -1.865 | 3.643  |               |   |



**Supplementary Table S13:**  
**GO analysis from genes upregulated and downregulated by both LPA and OP-860,850 treatment**  
 DAVID Bioinformatics Resources 6.8  
 National Institute of Allergy and Infectious Diseases (NIAID), NIH

| No   | Gene regulation | Category         | Term  | Count | %           | PValue      | Problems of genes  | List Total | Pop Hits | Pop Total | Fold Enrichment | Bonferroni  | Benjamini   | FDR      |
|--|-----------------|------------------|---|-------|-------------|-------------|--|------------|----------|-----------|-----------------|-------------|-------------|----------|
| 1  | up              | GOTERM_BP_DIRECT | GO:0030215 keratinocyte differentiation                               | 3     | 23.07692308 | 0.00102853  | A 23 P82709, A 23 P34482, A 23 P51322, A 23 P287648  | 12         | 76       | 16792     | 35.2384211      | 0.13700693  | 0.13700693  | 1.263803 |
| 2  | up              | GOTERM_BP_DIRECT | GO:0005198 structural molecule activity                               | 3     | 23.07692308 | 0.01049730  | A 23 P82709, A 23 P46589, A 23 P331560, A 23 P38566  | 12         | 247      | 16881     | 17.08803239     | 0.28571886  | 0.28571886  | 8.936299 |
| 3  | up              | GOTERM_MF_DIRECT | GO:0004925 serine-type endopeptidase activity                         | 3     | 23.07692308 | 0.01142871  | A 23 P257003, A 23 P153480, A 23 P19304  | 12         | 255      | 16881     | 16.95           | 0.249714471 | 0.13609762  | 8.902789 |
| 4  | up              | GOTERM_BP_DIRECT | GO:0007586 embryo implantation  | 2     | 15.38461538 | 0.02717956  | A 23 P257003, A 23 P79518  | 12         | 42       | 16792     | 66.63482063     | 0.974525425 | 0.84646998  | 27.65715 |
| 5  | up              | GOTERM_BP_DIRECT | GO:0001533 confirmed envelope   | 2     | 15.38461538 | 0.02988163  | A 23 P82709, A 23 P34462   | 13         | 46       | 18224     | 60.94983278     | 0.58512519  | 0.58512519  | 22.59743 |
| 6  | up              | GOTERM_BP_DIRECT | GO:0011424 keratinization   | 2     | 15.38461538 | 0.03100707  | A 23 P82709, A 23 P34462   | 12         | 48       | 16792     | 58.30555556     | 0.886208781 | 0.760188954 | 30.90966 |
| 7  | up              | GOTERM_BP_DIRECT | GO:0011424 keratinization   | 2     | 15.38461538 | 0.03277985  | A 23 P82709, A 23 P34462   | 12         | 50       | 16792     | 59.73333333     | 0.988466254 | 0.672287611 | 31.96744 |
| 8  | up              | GOTERM_BP_DIRECT | GO:0003141 secretory granule  | 2     | 15.38461538 | 0.04678639  | A 23 P79518, A 23 P153480, A 23 P19304   | 13         | 74       | 18224     | 37.88773389     | 0.757411041 | 0.507466794 | 33.79309 |
| 9  | up              | GOTERM_BP_DIRECT | GO:0005616 extracellular space  | 4     | 30.76923077 | 0.05356686  | A 23 P257003, A 23 P79518, A 23 P153480, A 23 P19304   | 13         | 1347     | 18224     | 4.12883054      | 0.797414611 | 0.412883054 | 37.17727 |
| 10   | up              | GOTERM_BP_DIRECT | GO:0008944 epidermis development                                      | 2     | 15.38461538 | 0.05400854  | A 23 P153480, A 23 P62709  | 12         | 85       | 16792     | 32.9254902      | 0.781032156 | 0.4808165   | 48.08165 |
| 11   | up              | GOTERM_MF_DIRECT | GO:0008923 epidermis activity   | 2     | 15.38461538 | 0.05712369  | A 23 P257003, A 23 P153480   | 12         | 90       | 16881     | 31.26111111     | 0.770190464 | 0.387476604 | 37.94947 |
| 12   | up              | GOTERM_MF_DIRECT | GO:0005509 calcium ion binding  | 3     | 23.07692308 | 0.076861107 | A 24 P51322, A 23 P387648, A 23 P349463, A 23 P19304   | 12         | 717      | 16881     | 5.8855983264    | 0.884582054 | 0.383376744 | 47.75566 |
| <b>GO analysis of downregulation genes</b> |                 |                  |   |       |             |             |  |            |          |           |                 |             |             |          |
| No   | Gene regulation | Category         | Term  | Count | %           | PValue      | Problems of genes  | List Total | Pop Hits | Pop Total | Fold Enrichment | Bonferroni  | Benjamini   | FDR      |
| 13   | down            | GOTERM_CC_DIRECT | GO:0005887 integral component of plasma membrane                      | 18    | 27.69230769 | 4.01E-06    | A 23 P99386, A 24 P26506, A 24 P339429, A 23 P15980, A 24 P217572, A 23 P44569, A 23 P331560, A 23 P38566, A 23 P158318, A 23 P380304, A 23 P27606, A 23 P121253, A 23 P79518, A 23 P203972, A 23 P91380, A 23 P382835, A 23 P6935, A 23 P156180   | 64         | 1415     | 18224     | 3.622261484     | 3.88E-04    | 3.88E-04    | 0.00442  |
| 14   | down            | GOTERM_CC_DIRECT | GO:0005886 plasma membrane  | 31    | 47.69230769 | 1.0E-06     | A 23 P99386, A 24 P26506, A 23 P339429, A 23 P15980, A 23 P123596, A 23 P60627, A 23 P54291, A 24 P217572, A 23 P44569, A 24 P18584, A 23 P331560, A 23 P380304, A 23 P27606, A 23 P66432, A 23 P79518, A 24 P49204, A 23 P382835, A 23 P91910, A 23 P6935, A 23 P417974, A 23 P12642, A 24 P26506, A 24 P87036, A 23 P15980, A 23 P158318, A 23 P64721, A 23 P6813, A 23 P91380, A 23 P429850, A 23 P156180, A 23 P214925 | 64         | 4121     | 18224     | 2.142016501     | 0.001043852 | 5.22E-04    | 0.011881 |
| 15   | down            | GOTERM_BP_DIRECT | GO:0030335 positive regulation of cell migration                      | 7     | 10.76923077 | 6.48E-06    | A 23 P105251, A 23 P215494, A 23 P54144, A 23 P114057, A 23 P168624, A 23 P158318, A 23 P214925  | 64         | 184      | 16792     | 9.981657609     | 0.043571478 | 0.043571478 | 0.097132 |
| 16   | down            | GOTERM_BP_DIRECT | GO:0070374 positive regulation of ERK1 and ERK2 cascade               | 6     | 9.230769231 | 5.01E-04    | A 23 P12642, A 24 P26506, A 23 P215494, A 23 P54144, A 23 P26884, A 23 P382835   | 64         | 175      | 16792     | 8.985714286     | 0.292183718 | 0.188668933 | 0.750928 |
| 17   | down            | GOTERM_CC_DIRECT | GO:0005915 extracellular space  | 14    | 21.53846154 | 5.98E-04    | A 23 P99386, A 23 P215494, A 23 P94517, A 23 P95302, A 23 P12642, A 23 P121253, A 24 P48204, A 23 P215494, A 23 P91390, A 23 P344555, A 24 P217572, A 23 P28524, A 23 P165824, A 23 P158318  | 64         | 1347     | 18224     | 2.959539718     | 0.056169763 | 0.01908181  | 0.655532 |
| 18   | down            | GOTERM_CC_DIRECT | GO:0016324 apical plasma membrane                                     | 6     | 9.230769231 | 0.00311593  | A 24 P87036, A 23 P382835, A 23 P54291, A 23 P156180, A 23 P44569, A 23 P331560  | 64         | 291      | 18224     | 5.871134021     | 0.275126021 | 0.07728915  | 3.594431 |
| 19   | down            | GOTERM_BP_DIRECT | GO:0045786 negative regulation of cell cycle                          | 3     | 4.615384615 | 0.00847871  | A 23 P54144, A 23 P60627, A 23 P94517  | 64         | 37       | 16792     | 21.27384865     | 0.997191937 | 0.658918866 | 12.02893 |
| 20   | down            | GOTERM_BP_DIRECT | GO:0007165 signal transduction  | 11    | 16.92307692 | 0.010721039 | A 23 P215494, A 23 P12642, A 23 P121253, A 24 P48204, A 23 P215494, A 23 P91390, A 23 P344555, A 24 P217572, A 23 P28524, A 23 P165824, A 23 P158318   | 64         | 1161     | 16792     | 2.48589578      | 0.999411219 | 0.844228373 | 14.97626 |
| 21   | down            | GOTERM_CC_DIRECT | GO:0009896 cell surface   | 7     | 10.76923077 | 0.010915933 | A 24 P26506, A 23 P203972, A 23 P91390, A 23 P382835, A 23 P44569, A 24 P18584, A 23 P417974   | 64         | 542      | 18224     | 3.677583026     | 0.68515794  | 0.191790135 | 11.40784 |
| 22   | down            | GOTERM_MF_DIRECT | GO:0043123 positive regulation of L-homocysteine transporter activity | 2     | 3.076923077 | 0.011154948 | A 24 P87036, A 24 P87036, A 23 P331560   | 64         | 3        | 16881     | 175.84375       | 0.868715709 | 0.688715709 | 12.91633 |
| 23   | down            | GOTERM_BP_DIRECT | GO:0015722 retaglinin transport                                       | 2     | 3.076923077 | 0.01121335  | A 23 P135800, A 23 P44569  | 64         | 3        | 16792     | 174.9166667     | 0.99592517  | 0.7607518   | 15.61154 |
| 24   | down            | GOTERM_BP_DIRECT | GO:0061365 behavioral response to formalin induced pain               | 2     | 3.076923077 | 0.01121335  | A 24 P26506, A 24 P32859   | 64         | 3        | 16792     | 174.9166667     | 0.99592517  | 0.7607518   | 15.61154 |
| 25   | down            | GOTERM_BP_DIRECT | GO:0008110 ion transport  | 4     | 6.153846154 | 0.020292944 | A 23 P79518, A 23 P331560, A 23 P331560, A 23 P331560, A 23 P331560, A 23 P417974  | 64         | 127      | 16792     | 8.263778228     | 0.99769219  | 0.782333824 | 16.69572 |
| 26   | down            | GOTERM_BP_DIRECT | GO:0001934 positive regulation of protein phosphorylation             | 4     | 6.153846154 | 0.020292944 | A 23 P2642, A 24 P26506, A 23 P54144, A 23 P28285  | 64         | 127      | 16792     | 8.263778228     | 0.99769219  | 0.782333824 | 16.69572 |
| 27   | down            | GOTERM_BP_DIRECT | GO:0000186 activation of MAPK8/ERK1                                   | 3     | 4.615384615 | 0.02894818  | A 24 P26506, A 23 P54144, A 23 P207319   | 64         | 46       | 16792     | 17.1141304      | 0.998870947 | 0.72175469  | 17.45258 |
| 28   | down            | GOTERM_BP_DIRECT | GO:0019221 cytokine-mediated signaling pathway                        | 4     | 6.153846154 | 0.013109719 | A 23 P420196, A 23 P99386, A 23 P140896, A 23 P54291   | 64         | 131      | 16792     | 8.01450382      | 0.998868948 | 0.679601678 | 18.0441  |
| 29   | down            | GOTERM_BP_DIRECT | GO:0015709 iodide transport   | 2     | 3.076923077 | 0.014924228 | A 24 P87036, A 23 P331560  | 64         | 4        | 16792     | 131.1975        | 0.999968808 | 0.684252329 | 20.2542  |
| 30   | down            | GOTERM_MF_DIRECT | GO:0005508 calcium ion binding  | 8     | 12.30769231 | 0.017041304 | A 23 P12642, A 23 P79518, A 23 P54144, A 23 P91390, A 23 P91390, A 23 P60627, A 23 P54291, A 23 P126889  | 64         | 717      | 16881     | 2.942991832     | 0.955446319 | 0.788922572 | 19.08633 |
| 31   | down            | GOTERM_MF_DIRECT | GO:0005954 chloride channel activity                                  | 3     | 4.615384615 | 0.01716271  | A 23 P66432, A 23 P7036, A 23 P331560  | 64         | 54       | 16881     | 14.65384633     | 0.957668667 | 0.651452282 | 19.37628 |
| 32   | down            | GOTERM_BP_DIRECT | GO:0042475 odontogenesis of dentin-containing tooth                   | 3     | 4.615384615 | 0.018106851 | A 23 P8913, A 23 P54144, A 23 P15785   | 64         | 55       | 16792     | 14.31196384     | 0.999996656 | 0.716579111 | 24.04538 |
| 33   | down            | GOTERM_BP_DIRECT | GO:0009612 response to mechanical stimulus                            | 3     | 4.615384615 | 0.020640009 | A 23 P382835, A 23 P28524, A 23 P15785   | 64         | 59       | 16792     | 13.34110169     | 0.999999447 | 0.730119667 | 28.96886 |
| 34   | down            | GOTERM_BP_DIRECT | GO:0008955 immune response  | 6     | 9.230769231 | 0.020711404 | A 23 P79518, A 23 P207319, A 23 P12642, A 23 P28285, A 23 P99386, A 24 P48204  | 64         | 421      | 16792     | 3.799311164     | 0.999994865 | 0.699831517 | 27.02204 |
| 35   | down            | GOTERM_BP_DIRECT | GO:0043123 positive regulation of L-homocysteine transporter activity | 4     | 6.153846154 | 0.023877709 | A 23 P121253, A 23 P99386, A 24 P48204, A 23 P207319   | 64         | 161      | 16792     | 6.51863354      | 0.999998965 | 0.702566986 | 20.08553 |
| 36   | down            | GOTERM_BP_DIRECT | GO:0005975 carbohydrate metabolic process                             | 4     | 6.153846154 | 0.02758671  | A 23 P79518, A 23 P121253, A 23 P12682, A 23 P330304   | 64         | 174      | 16792     | 6.031809195     | 0.999999966 | 0.748231092 | 34.34787 |
| 37   | down            | GOTERM_BP_DIRECT | GO:0005975 carbohydrate metabolic process                             | 3     | 4.615384615 | 0.027665193 | A 23 P105251, A 23 P15444, A 23 P158318  | 64         | 69       | 16792     | 11.4076087      | 0.999999966 | 0.72487536  | 34.44444 |
| 38   | down            | GOTERM_BP_DIRECT | GO:0001638 smooth muscle cell proliferation                           | 4     | 6.153846154 | 0.02835652  | A 23 P12642, A 23 P54144, A 23 P50838  | 64         | 69       | 16792     | 11.4076087      | 0.999999966 | 0.72487536  | 34.44444 |
| 39   | down            | GOTERM_MF_DIRECT | GO:0005125 cytokine activity  | 4     | 6.153846154 | 0.02835652  | A 23 P121253, A 23 P99386, A 23 P48204, A 23 P54144  | 64         | 176      | 16881     | 5.994472393     | 0.994152845 | 0.723282261 | 28.57247 |
| 40   | down            | GOTERM_BP_DIRECT | GO:0001300 cellular response to nitric acid                           | 3     | 4.615384615 | 0.028411080 | A 23 P203972, A 23 P7885, A 23 P94517  | 64         | 70       | 16792     | 11.24464286     | 0.999999998 | 0.711475707 | 35.19733 |
| 41   | down            | GOTERM_BP_DIRECT | GO:0007155 cell adhesion  | 6     | 9.230769231 | 0.028715223 | A 23 P44569, A 23 P49990, A 23 P15785, A 23 P99386, A 23 P168624, A 23 P393034   | 64         | 459      | 16792     | 3.429738562     | 0.999999998 | 0.69350735  | 35.50201 |
| 42   | down            | GOTERM_BP_DIRECT | GO:0010544 negative regulation of platelet activation                 | 2     | 3.076923077 | 0.029292909 | A 23 P91390, A 23 P91390   | 64         | 78       | 16792     | 65.59275        | 0.999999999 | 0.684296886 | 38.40951 |
| 43   | down            | GOTERM_BP_DIRECT | GO:00462579 positive regulation of neuron differentiation             | 3     | 4.615384615 | 0.034626579 | A 23 P54144, A 23 P94517, A 24 P18584  | 64         | 8        | 16792     | 10.09134619     | 1           | 0.722277579 | 41.19733 |

|    |      |                  |   |    |             |             |   |    |      |       |             |             |             |          |
|----|------|------------------|---|----|-------------|-------------|---|----|------|-------|-------------|-------------|-------------|----------|
| 44 | down | GOTERM_BP_DIRECT | GO:0045895 "positive regulation of transcription, DNA-    | 6  | 9.230769231 | 0.043717073 | A_32.P59302, A_23.P105251, A_23.P54144, A_23.P41765, A_23.P158318, A_23.P393034   | 64 | 519  | 16792 | 3.066796117 | 1           | 0.786090105 | 48.97361 |
| 45 | down | GOTERM_BP_DIRECT | GO:1902476 "chloride transmembrane transport              | 3  | 4.615384615 | 0.047654035 | A_23.P66432, A_24.P27036, A_23.P331560  | 64 | 93   | 16792 | 8.463709677 | 1           | 0.786090105 | 52.04569 |
| 46 | down | GOTERM_BP_DIRECT | GO:0045780 "positive regulation of bone resorption        | 2  | 3.076923077 | 0.047706835 | A_23.P93386, A_23.P8913   | 64 | 13   | 16792 | 40.95538462 | 1           | 0.784141328 | 52.08577 |
| 47 | down | GOTERM_BP_DIRECT | GO:0050665 "rejection of temperature stimulus involves    | 2  | 3.076923077 | 0.051282503 | A_24.P265506, A_24.P81036   | 64 | 14   | 16792 | 37.48214386 | 1           | 0.183866088 | 54.72332 |
| 48 | down | GOTERM_BP_DIRECT | GO:0001649 "osteoblast differentiation                    | 3  | 4.615384615 | 0.056131789 | A_23.P105251, A_23.P54144, A_23.P157865, A_23.P112492, A_23.P93386, A_24.P339429, A_23.P86676, A_23.P14057, A_23.P54291, A_23.P383034, A_23.P331560, A_23.P27036, A_24.P48204, A_23.P203972, A_23.P319617, A_23.P91910, A_24.P388528, A_23.P6935, A_23.P417974, A_32.P113066, A_24.P10233, A_24.P87036, A_23.P135990, A_23.P158318, A_23.P121253, A_23.P64721, A_24.P941167, A_23.P156190 | 64 | 104  | 16792 | 7.565529615 | 1           | 0.821262161 | 59.40143 |
| 49 | down | GOTERM_CC_DIRECT | GO:0016021 "integral component of membrane                | 25 | 38.46153846 | 0.059582222 | A_23.P112492, A_23.P93386, A_24.P339429, A_23.P86676, A_23.P14057, A_23.P54291, A_23.P383034, A_23.P331560, A_23.P27036, A_24.P48204, A_23.P203972, A_23.P319617, A_32.P113066, A_24.P10233, A_24.P87036, A_23.P135990, A_23.P158318, A_23.P121253, A_23.P64721, A_24.P941167, A_23.P156190   | 64 | 5163 | 18224 | 1.376801085 | 0.997417023 | 0.629566538 | 49.23341 |
| 50 | down | GOTERM_BP_DIRECT | GO:0043547 "positive regulation of GTPase activity        | 6  | 9.230769231 | 0.060493865 | A_23.P126642, A_24.P265506, A_23.P215484, A_23.P203872, A_23.P24884, A_24.P328524   | 64 | 505  | 16792 | 2.766283186 | 1           | 0.821337886 | 60.90707 |
| 51 | down | GOTERM_BP_DIRECT | GO:0008285 "negative regulation of cell proliferation     | 5  | 7.692307692 | 0.061282621 | A_24.P265506, A_23.P54144, A_23.P60827, A_23.P41765, A_23.P158318   | 64 | 396  | 16792 | 3.328158577 | 1           | 0.813282047 | 61.38815 |
| 52 | down | GOTERM_BP_DIRECT | GO:0050870 "positive regulation of I cell activation      | 2  | 3.076923077 | 0.065453128 | A_23.P93386, A_23.P8913   | 64 | 18   | 16792 | 29.1527778  | 1           | 0.822705821 | 63.90058 |
| 53 | down | GOTERM_BP_DIRECT | GO:0045672 "positive regulation of osteoclast differentia | 2  | 3.076923077 | 0.068963111 | A_23.P93386, A_23.P8913   | 64 | 19   | 16792 | 27.61842105 | 1           | 0.828106076 | 65.88833 |
| 54 | down | GOTERM_BP_DIRECT | GO:0046578 "positive regulation of osteoclast signal tr   | 2  | 3.076923077 | 0.068963111 | A_23.P126642, A_24.P265506  | 64 | 19   | 16792 | 27.61842105 | 1           | 0.828106076 | 65.88833 |
| 55 | down | GOTERM_BP_DIRECT | GO:0048545 "response to steroid hormone                   | 2  | 3.076923077 | 0.072460119 | A_23.P8913, A_23.P44569   | 64 | 20   | 16792 | 26.23175    | 1           | 0.832949578 | 67.76674 |
| 56 | down | GOTERM_BP_DIRECT | GO:0007204 "positive regulation of cytosolic calcium ion  | 3  | 4.615384615 | 0.090136794 | A_23.P383835, A_24.P21572, A_23.P3956   | 64 | 134  | 16792 | 5.874067164 | 1           | 0.886119238 | 75.81174 |
| 57 | down | GOTERM_BP_DIRECT | GO:0021892 "pituitary gland development                   | 2  | 3.076923077 | 0.099747328 | A_23.P105251, A_23.P54144   | 64 | 23   | 16792 | 18.14107143 | 1           | 0.904104517 | 79.51329 |