

Division of Biochemistry – Molecular Biology –



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KAWACHI-REUSCHER, Miki (D. Agr.) Georg-August-Universität Göttingen, Germany, 7 October 2024–15 October 2024

Scope of Research

This laboratory aims to clarify the molecular bases of regulatory mechanisms involved in plant development, especially morphogenesis and environment adaptation, using techniques of forward and reverse genetics, molecular biology, and biochemistry. Current major subjects are: 1) COP9 signalosome modulating signal transduction in the nuclei, 2) RNA processing mediated gene expression regulation, 3) phospholipid signaling in cell morphogenesis, and 4) transcriptional network for cell morphogenesis.

KEYWORDS

Morphogenesis

mRNA Processing

Phospholipid Signaling

Signal Transduction

COP9 Signalosome



Recent Selected Publications

Kato, M.; Watari, M.; Tsuge, T.; Zhong, S.; Gu, H.; Qu, L.-J.; Fujiwara, T.; Aoyama, T., Redundant Function of the *Arabidopsis* Phosphatidylinositol 4-Phosphate 5-Kinase Genes *PIP5K4-6* is Essential for Pollen Germination, *Plant J.*, **117**, 212-215 (2024).

Akagi, C.; Kurihara, Y.; Makita, Y.; Kawaguchi, M.; Tsuge, T.; Aoyama, T.; Matsui, M., Transcriptional Activation of Ribosome-Related Genes at Initial Photoreception is Dependent on Signals Derived from Both the Nucleus and the Chloroplasts in *Arabidopsis thaliana*, *J. Plant Res.*, **136**, 227-238 (2023).

Watari, M.; Kato, M.; Blanc-Mathieu, R.; Tsuge, T.; Ogata, H.; Aoyama, T., Functional Differentiation among the *Arabidopsis* Phosphatidylinositol 4-Phosphate 5-Kinase Genes *PIP5K1*, *PIP5K2* and *PIP5K3*, *Plant Cell Physiol.*, **63**, 635-648 (2022).

Zhang, X.; Nomoto, M.; Garcia-León, M.; Takahashi, N.; Kato, M.; Yura, K.; Umeda, M.; Rubio, V.; Tada, Y.; Furumoto, T.; Aoyama, T.; Tsuge, T., CFI 25 Subunit of Cleavage Factor I is Important for Maintaining the Diversity of 3' UTR Lengths in *Arabidopsis thaliana* (L.) Heynh, *Plant Cell Physiol.*, **63**, 369-383 (2022).