

Profile of Jokichi Takamine

Year	Event
1854	Born in Takaoka in Ettchu Province, present-day Toyama Prefecture. His father, Seiichi, was a doctor practicing Western medicine; his mother, Yukiko, came from a family of sake distillers. Jokichi was their first son. Moves to Kanazawa the following year due to his father's work.
1865	Goes to Nagasaki to study medicine at the age of 11. Studies English under Reishi Ga and Verbeck.
1868	Bides his time in Kyoto and Osaka at the time of the Battle of Toba–Fushimi.
1869	Studies at <i>Osaka Igakko</i> and <i>Rigakusho</i> , where he meets the German teacher Ritter and sets his sights on applied chemistry.
1872	Goes to Tokyo to study chemistry as a technical trainee sponsored by the Ministry of Industry.
1879	Graduates at the top of his class in applied chemistry from Imperial College of Engineering (aged 25).
1880	Sent by the Ministry of Industry to study in the UK for three years. Studies at the University of Glasgow and elsewhere.
1883	Returns to Japan via the US. Becomes an official at the department of industry promotion in the Engineering Bureau of the Ministry of Agriculture and Commerce.
1884	Dispatched to the New Orleans Exposition (World Industrial and Cotton Centennial Exposition). Journalist Lafcadio Hearn covers this exposition. Takamine becomes close to Caroline Hitch.
1885	Engaged to Caroline Hitch. Becomes interested in phosphate rocks on display at the exposition and buys some at his own expense to take back to Japan.
1886	Concomitantly becomes vice-director of the Patent Bureau and head of the analysis department of the General Affairs Bureau. Becomes friends with Eiichi Shibusawa and Takashi Masuda.
1887	Begins preparations for establishing a company making chemical fertilizers, travels to the US and Europe to carry out surveys and purchase equipment. Marries Caroline Hitch in New Orleans. Establishes “Tokyo Artificial Fertilizer Company” in Fukagawa, Tokyo, with the help of Shibusawa and Masuda.
1888	Begins production of fertilizer. Resigns post as a government official. Eldest son born. Builds a private medicine manufacture laboratory and begins research into fermentation.
1889	Second son born.
1890	Takamine and his family move to the US at the invitation of the Hitch family, accompanied by Kosuke Fujiki. Contracts liver disease during the voyage and is hospitalized in Chicago for treatment (aged 36).
1891	Establishes a method for distilling whiskey using <i>koji</i> mold. Moves to Peoria to begin full-fledged research into brewing.
1892	Establishes a method of fermentation using <i>koji</i> mold at the pilot plant. Tetsukichi Shimizu, Takamine's junior from the Imperial College of Engineering, comes to America to join him. The business develops well.
1893	Meets with opposition from malt manufacturers and his factory burns down. Relapse of liver disease. Abandons whiskey business, changes track and begins research and development of the digestive medicine Taka-diastrase . Parke, Davis & Co. show great interest in this medicine, and commence negotiations.
1894	Applies for US patent for Taka-diastrase and concentrates on research into increasing the power to saccharify starch.
1895	Parke, Davis & Co. begins sales of “TAKA=DIASTASE,” which becomes a hugely popular product (aged 41).
1896	Tetsukichi Shimizu dies suddenly. Kosuke Fujiki carries his ashes back to Japan.

1897	Takamine moves to New York with his family. Opens the Takamine Laboratory for the adrenal gland blood pressure-raising principle; The American researcher Abel announces the name “Epinephrin,” Fürth names it “Suprarenin.”
1898	Matasaku Shiobara, the founder of Sankyo Co., hears about the digestive medicine Taka-diastrase from his friend, Shotaro Nishimura.
1899	Sankyo Shouten in Tokyo begins import and sales of Taka-diastrase. Takamine is conferred a PhD in engineering in Tokyo.
1900	Keizo Wooyenaka is employed by Takamine Laboratory. Successful crystallization of the active principle of the adrenal medulla in July through collaboration with Wooyenaka. Takamine names it “Adrenalin” and applies for a patent (aged 46).
1901	Trade name “Adrenalin” registered in the US. Takamine begins a vigorous program of announcing the crystallization of adrenaline at academic conferences in the US and the UK. Parke, Davis & Co. begins sales of “SOLUTION Adrenalin Chloride.”
1902	Japanese trade name “Adrenalin” registered. Sankyo Pharmaceutical Company acquires exclusive rights to market Taka-diastrase in Japan and also imports and sells Adrenalin solution.
1904	Takamine and his wife give great assistance to Kentaro Kaneko, a special envoy sent to the US to garner support for Japan in the Russo-Japanese War. Takamine appears in a newspaper article publicizing the modernized Japan.
1905	Takamine re-erects the <i>Shoufuuden</i> (“Pine Maple Pavilion”) at Merriewold, outside New York, and works for Japan-America relations. Establishes a Nippon Club in New York for Japanese people living in the US, and becomes the first chairman. In New York he gives encouragement to the Russo-Japan War peace delegation, which is headed by Jutaro Komura, a fellow alumnus of the <i>Chienkan</i> school in Nagasaki (aged 51).
1906	Conferred a PhD in pharmaceuticals in Tokyo.
1907	An American influential person from the financial world establishes the “Japan Society” in New York, Takamine becomes honorary vice president.
1909	Takamine and the Japanophile Eliza Scidmore discuss planting rows of Japanese cherry trees in the US, and enlist the support of First Lady Helen Taft. The cherry trees are donated by the city of Tokyo, but are not planted because they are infested with pests and have to be incinerated.
1911	Takamine wins a patent infringement lawsuit against a similar product that appeared after his own, and his patent receives praise.
1912	The Japanese cherry trees he long hoped for are planted around the tidal basin of the Potomac in Washington and along the Hudson River in New York.
1913	Establishes Sankyo Co., Ltd. and is appointed the first company president while still residing in the US. Proposes establishment of the National Chemistry Laboratories (now the Institute of Physical and Chemical Research) (aged 59).
1914	Sankyo Co. begins production of Taka-diastrase in Japan. Takamine’s friend Dr. Leo Baekeland gives him the license for Bakelite for free, and Sankyo commences production in Japan.
1917	<i>Rikagaku Kenkyusho</i> (the Institute of Physical and Chemical Research, RIKEN) was established according to Takamine’s suggestion. Establishes the Takamine Laboratory in Clifton, New Jersey.
1918	Takamine proposes and works for construction of a hydroelectric plant for producing aluminum on the Kurobe River in his native Toyama Prefecture.
1920	Sankyo Co. commences production of Adrenalin solution in Japan.
1921	Parke, Davis & Co decline a request from the Revision Committee of the <i>US Pharmacopeia</i> for the use of the name adrenaline, so the name in the <i>Pharmacopeia</i> has been “epinephrine” ever since in the US. Takamine was undergoing medical treatment, but he continued to work hard at his Japan-America friendship activities and eventually collapses at the end of the year.
1922	Takamine dies at age 67 in New York on 22 July. He is buried in Woodlawn Cemetery.