Jokichi Takemine Biography

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Biography

Jokichi Takemine is best known for his isolation of the hormone epinephrine. He was also principally responsible for the Japanese government's gift of the cherry trees that bloom every spring in Washington, D.C.

Takemine was born into a Samurai family in Kanazawa, Japan. His father was a physician trained at the Dutch medical school in Nagasaki. At the age of eighteen Takemine began to study medicine in Osaka, but shortly transferred to the new school of science and engineering in Tokyo. After graduation he studied in Great Britain. Intrigued by the South Carolina displays at an exhibition in London, in the 1880s he came to the United States and learned the commercial fertilizer business. He met his future wife in New Orleans.

Returning to Japan, Takemine initiated Japan's own fertilizer industry along with various other manufacturing and chemical industries. He discovered a form of the enzyme diastase that converts starch to dextrin and sugar, making the commercial-scale distillation of grain alcohol possible. Returning to the United States in 1890, he and his family settled in Peoria, Illinois, where his Taka-diastase was used in liquor production.

He also conducted his own independent research and moved to New York to start his own laboratory. In 1897 he saw John Jacob Abel's progress in isolating a form of epinephrine. Takemine developed a more successful isolation method of adding ammonia and allowing pure crystalline epinephrine to precipitate. The laboratory work was principally performed by a young assistant, Heizo Wooyenaka. Success came in 1901, when Wooyenaka left the laboratory one night without cleaning his equipment. When he returned the next morning, he found the crystals. Takemine promptly patented the process. One of the first people whose life was saved by the new product was Takemine's sister-in-law, who was hemorrhaging and in shock during childbirth.

A true internationalist, Takemine alternated long periods in the United States and Japan, and traveled worldwide to oversee his business interests. These included agreements with the Parke-Davis Pharmaceutical Co. in the West and the Sankyo Pharmaceutical Co. in Japan. In 1899, Takemine received a doctor of science degree from the University of Tokyo. His other honors included memberships in the Royal Chemical Society of England and the Japanese Academy of Science.