



# A Biography

Masakane Mizutani

*Founder of the Mizutani Foundation for Glycoscience*

水谷當稱

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Masakane Mizutani was born in Shinjuku, Tokyo, in 1910, and graduated from the Economic Department of the Tohoku Imperial University in 1934. He joined Kawasaki Machine Manufacturing Division of Mitsubishi Heavy Industries Ltd. The World War II ended 10 years after he joined the company. In the postwar years of turmoil and devastation, he was convinced that the promotion of science and technology was indispensable for the restoration and rebuilding of Japan. Around that time, he was advised by his brother-in-law, the late Dr. Fujio Egami (former professor of Tokyo University, former Chairman of Science Council of Japan, and a recipient of the prize of the Japan Academy), to commercialize pharmaceutical products using chondroitin sulfate. Dr. Egami had been engaged in biochemical studies of this polysaccharide for many years and had a conviction that this substance would provide safe and useful pharmaceutical effects on human body. Although Mizutani had been deeply interested in this advice, it was outside the sphere of his specialized field. He also had several other

problems, including the need to procure fund to start a new business. Fortunately, he had several friends who had prominent expertise in the areas of basic science, medicine and corporate management. They advised and assisted Mizutani who embraced an enthusiastic hope of starting a new enterprise. On many occasions in later years, Mizutani recalled how useful their cooperation had been.

In 1948, Mizutani had an encounter with Mr. Toshitane Takada of Kosei Fishery Co. Ltd. and jointly sought the possibility of commercializing chondroitin sulfate, in Kurihama, Kanagawa Prefecture. Mizutani himself engaged in the work to extract and refine this polysaccharide from whale and shark cartilage. This provided him with valuable experience of product manufacturing. The early-stage product took the form of an oral pharmaceutical product, and subsequently he succeeded in higher-level refinement, thus paving the way to manufacturing injection pharmaceuticals. In this way the first medicine using chondroitin sulfate was

placed on the market in 1950. In subsequent years, it was confirmed clinically that this medicine was effective for various types of diseases. Also its safety was ensured making it a very durable medicine.

In 1953, when the production of chondroitin sulfate medicine got on a smooth track, his company was renamed as K.K. Seikagaku Kenkyusyo (Biochemical Research Institute Corporation). From the start, Mizutani had an ideal “to contribute to the welfare of mankind by extensively supplying safe and useful pharmaceuticals to the world.” In the process of building up his business, he fully recognized the importance of basic research and technology because of his effort to manufacture products, verify effectiveness of the medicine and ensure the safety of the products. The change of his company’s name to the one somewhat sounding like an academic institution might have been the expression of his commitment of giving high prominence to science in his pursuit of his ideal. In 1962 when the corporate base was solidified, the company name was changed again to the present “Seikagaku Corporation.”

While striving to stabilize the corporate base, Mizutani launched the activities to assist promotion of science on complex carbohydrate based on his conviction that cooperation between the industry and academia is vital. In 1957, he assisted in organizing the Study Group on Mucopolysaccharide in 1957, contributing to the establishment of the Japanese Society for Connective Tissue Research as it is today. At the time of the International Congress on Biochemistry held in Japan in 1967 and the International Meeting on Glycoconjugates in 1981, he contributed to international interchanges among researchers on complex carbohydrates by taking the initiative to organize a satellite international meeting on respective occasions, namely “Korinkaku Symposium” and Proteoglycan Meeting.

Following chondroitin sulfate medicine, Mizutani succeeded in commercializing bulk drug such as dextran sulfate, lysozyme, and kallikrein, and various types of biochemical reagents for complex carbohydrate research as well as those for detection of endotoxin. The financial and technological base supporting development of these corporate activities was chondroitin sulfate medicines. However, although total sales saw a smooth growth, the company’s recurring profit had kept falling since 1970, and it faced the need to plan and develop new products. Around that time, a suggestion was made by Dr. Shuzo Iwata, through a member of the Complex Carbohydrate Study Group, for commercialization of hyaluronic acid. Research on this polysaccharide had been advanced by Dr. Endre Balazs, then professor of Columbia University, and it had been proved through animal experiments that it was effective for treatment of arthritis.

Mizutani had a strong interest in developing medicines using hyaluronic acid and set a target to make it a drug product, not a bulk drug as in the case of chondroitin sulfate. However, hyaluronic acid is a high molecular polysaccharide with very high viscosity, and there were difficult problems to turn it into a highly purified medicine that can be used for living bodies. In solving these problems, the know-how accumulated in the process of manufacturing chondroitin sulfate, which is a similarly highly viscous polysaccharide, was very instrumental. In other words, the technological base he had built up since the foundation of his venture

worked very effectively. In this way, in 1987, he succeeded in marketing “Artz,” the world’s first medicine for treatment of osteoarthritis using sodium hyaluronate.

Thanks to explosive sale of Artz, the recurring profit of Seikagaku Corporation increased ten times, contributing significantly to stabilization of its business base. He made public placement of his company’s stock on the over-the-counter (OTC) stock market, thus enhancing corporate credibility and further ensuring stable management. In the meantime, in October 1992, he established the Mizutani Foundation for Glycoscience by contributing 1.2 billion yen of his private fund and 200,000 shares of Seikagaku Corporation in order to materialize his longtime ideal of “promotion of glycoscience and contribution to the welfare of mankind.” His commitment to make international contribution was explicitly enunciated in the Prospectus for the Establishment of the Foundation, together with the objectives of supporting promotion of glycoscience. He himself visited the relevant government offices to explain about the intent of the Foundation, and obtained permission for its establishment. The Foundation is a rare case of a public interest organization to extend subsidies on a global level.

Mizutani played an active role in Japan’s business community. The major posts he has served include Vice Chairman of the Kanagawa Pharmaceutical Association, Councilor of the Federation of Pharmaceutical Manufacturers Associations of Japan (FPMAJ), Board Member of the Japan Bulk Pharmaceutical Manufacturers Association, Permanent Board Member of the Federation of Employers Associations of Japan, and Permanent Board Member of the Kanto Employers Association. In the commendation by the Japan Institute of Invention and Innovation (JIII) in 1994, he received the Award of the Kanto Trade and Industry Director in the awarding for outstanding inventions in the Kanto Region. In 1996, he was honored with the Award of the Science and Technology Agency Director-General for his achievement in development of polysaccharide medicines based on hyaluronic acid.

As the sale of hyaluronic acid medicines went on a smooth track, Mizutani stepped aside to chairmanship of Seikagaku Corporation in June 1989, and in 1998 he retired from public activities, resigning from both the Board of the company and the presidency of the Mizutani Foundation for Glycoscience.

Over 40 years from the foundation of his company to solidifying its base were a period of continuous devotion as an entrepreneur. About his wife Asako who supported his efforts throughout those years, he once wrote in a company bulletin:

“I thank my wife so much because she never uttered a word of complaint and did her job perfectly to raise our children in a free spirit and have them choose their direction of life they wanted. Without the support of my wife, I must have been frustrated in my work in the middle way.”

He loved classic music and used to sing when he was young. His enjoyment was to hold a family concert with his wife, who plays the piano, and his two daughters both of whom studied in music colleges, one specializing in violin and the other in flute. Two of his sons became researchers after graduating from science universities. The youngest son succeeded him as President of Seikagaku Corporation and also of the Mizutani Foundation.