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Biographical Sketch

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BIOGRAPHICAL SKETCH

Gertrude B. Elion
1918-1999

I have known Trudy, also known as Gertrude B. Elion for 47 years. We first met along with George Hitchings, in the office of Dr. Arnold Welch at Western Reserve University for a conference concerned with the anticancer potential of the 2-deoxyribonucleoside of 6-methyl-asym-triazine-3,5 (2H, 4H)-dione, which had been found to be a potent inhibitor of several harmless bacteria. Over the years, Trudy and I became good friends and interacted at many national and international meetings. One of the pictures that I have of Trudy is what a wonderful sport she was. At a meeting in Japan, Dr. Yung-chi “Tommy” Cheng and I invited her to a restaurant in Kyoto that specializes in noodles. Sitting was very uncomfortable since our legs were at right angles to the body. She accepted the uncomfortable position gracefully (I think). When in Tokyo, she invited us to a kobe-steak dinner in our hotel. She gasped when she received the bill and hoped that Burroughs Wellcome Co. would reimburse her.

Trudy was born on January 23, 1918 in New York City. She obtained a BA Degree from Hunter College in 1937 and an MS Degree from New York University in 1941. Because of the shortage of male scientists during the Second World War, a golden opportunity developed for her in that she was hired to be a research assistant in George Hitching’s laboratory located, at that time, in Tuckahoe, New York. Her scientific abilities were quickly recognized and she and Hitchings formed a lasting scientific partnership. In 1967 she became the Head of her own research department. In 1983, she retired and became Scientist Emeritus. She claimed that in retirement she was busier than ever, being active in research and professional organizations and continually called to give numerous lectures both in the United States and abroad.

Her appointment as Medical Research Professor of Pharmacology and Medicine at Duke University as well as Adjunct Professor in Pharmacology at the University of North Carolina at Chapel Hill resulted in students and postdoctoral fellows benefiting from her sage advice and guidance, which she freely gave.

The partnership of Trudy Elion and George Hitchings was outstandingly productive and resulted in their sharing the Nobel Prize in Physiology or Medicine in 1988. Numerous additional prizes were awarded to Trudy over the years, including 26 honorary doctorates. Those prizes included, but were not limited to, the National Medal of Science, the Garvan Medal from the American Chemical Society, the Bruce F. Cain Award from the American Association for Cancer Research, the President's Medal from Hunter College, the Judd Award from Memorial Sloan Kettering Cancer Center, the Ernst W. Bertner Memorial Award from the M.D. Anderson Cancer Center, and the Medal of Honor from the American Cancer Society. She was also honored by being elected to the National Academy of Sciences, the Institute of Medicine, the Royal Society, the American Academy of Arts and Sciences, the National Inventors Hall of Fame, the National Women's Hall of Fame, and the Engineering and Science Hall of Fame.

Trudy and George were a synergistic scientific team and their scientific accomplishments were quite remarkable. They developed a large number of therapeutic agents that are valuable for the treatment of patients with a variety of maladies. In the early 1950s, they produced 6-mercaptopurine, an antileukemic agent, and in the late 1950s produced 6-thioguanine, also an antileukemic agent. Imuran (azathioprine) also was developed in the late 1950s and was the first immunosuppressive drug reported. This work resulted in kidney and other organ transplants being practical as well as being effective in autoimmune disease. Allopurinol, a drug of value in the therapy of hyperuricemia (gout), was produced in the early 1960s, and later found to be effective in Chagas Disease.

After Hitchings' retirement, Trudy and Howard Schaeffer developed acyclovir as a drug for the therapy of herpes virus infections. This was a major milestone in antiviral drug development since acyclovir was found to be active only

in virally infected cells. It requires phosphorylation by the thymidine kinase encoded by the herpes virus genome, and it is not a substrate for cellular thymidine kinases. As the result, acyclovir has strong specificity for virally infected cells.

Trudy retired in 1983 as Scientist Emeritus by the time AZT (zidovodine) came along. However, she had set the stage for its discovery in that she had established the antiviral expertise at Burroughs Wellcome Co.

Not only was Trudy an extraordinary gifted scientist, but also a warm and generous person. She will be missed by all that have had the opportunity to know her, and I personally will miss her very much.

William H. Prusoff