

GERTRUDE BELLE "TRUDY" ELION (1918-1999)



Trudy went to public school in the Bronx and when her grandfather died of cancer she decided to major in chemistry in order to search for a cure. She entered Hunter College in NYC in 1933 at the age of 15 and graduated at 19 summa cum laude in chemistry in 1937.

Before WWII jobs did not exist in labs for women so after finding a few part time positions Trudy went back to graduate school at New York University to earn a MS in 1941.

During WWII labs were more open to employing women, and Trudy was first hired in food industry labs where she worked with quality control until a pharmaceutical research position at Burroughs- Wellcome (now GlaxoSmithKline) became available. In 1944, she commenced to work with Dr. George H. Hitchings in her chosen field of cancer research.

Ten years later in 1954 Trudy received a patent for 6-mercaptopurine (**6-MP**). This new compound resembled one of the purines in DNA used in cell division. but was slightly altered. Trudy referred to such a drug as a "rubber doughnut", because it "looked like the real thing but didn't allow DNA synthesis of the cancerous cells thus stopping cell growth. It was found that 6-MP effectively caused leukemia remission but not complete cure, so Elion decided to examine everything about 6-MP, devoting six years of her life to this research. She discovered that treating childhood leukemia with a combination of 6-MP and one of several other drugs is more effective than using 6-MP alone. This method of treatment now cures 8 out of 10 childhood leukemia cases, always in past quickly fatal.

In 1960 the "rubber doughnut" approach was used to design drugs effective in the treatment of various diseases including, gout, malaria, RA, auto immune hemolytic anemia, systemic lupus, and chronic active hepatitis and helps prevent organ transplant rejections.

In 1978 Trudy's team found and marketed the first antiviral drug called acyclovir. This drug led to the development of azidothymidine or AZT which is the most effective drug yet against the virus which causes AIDS.

In 1988 Trudy Elion received the Nobel Prize in Medicine together with George Hitchings and Sir James Black for their discoveries of important principles for drug treatment. She received other awards for her work, including the National Medal of Science in 1991, and that same year, she became the first woman to be inducted into the National Inventors Hall of Fame. In 1997, she was granted the Lemelson-MIT Lifetime Achievement Award

"Gertrude Belle Elion "2013. The Biography Channel website

<http://www.biography.com/people/Gertrude-b-elion-85981>.

http://www.nobelprize.org/nobel_prizes/medicine/laureates/1988/elion_bio

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