

**SELMAN ABRAHAM WAKSMAN, BORN IN UKRAINE — AN
OUTSTANDING SCIENTIST, A NOBEL LAUREATE, THE DISCOVERER
OF STREPTOMYCIN AND THE MODERN ERA OF ANTI-
TUBERCULOSIS CHEMOTHERAPY**

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Abstract

Throughout its existence, humanity has experienced both evolution and progress in health matters and borne the burden of complex diseases and shortened life duration. Tuberculosis is an example of a pathology that until recently was a sentence for the patient. Every successful step in the search for tuberculosis treatment (which means saving a life) is priceless.

The aim was to study of the biography of Selman Waksman and the history of the streptomycin discovery according to the literature data.

Selman Waksman was born in 1888 in a Ukrainian village near Vinnitsa, and immigrated to the United States in 1910. He received a bachelor's degree in 1915, and in 1916 — a magister degree in the agricultural course of Rutgers College. In 1918, Selman received Ph.D. in Biochemistry in the University of California. Since 1918, he worked in the Department of Soil Microbiology at Rutgers University and studied actinomycetes. In 1923, Waksman discovered that certain actinomycetes produced substances toxic to bacteria, and in 1939 he began an extensive research program to determine the nature of the substances by which various soil microbes destroyed each other. Actinomycin, an effective but toxic antibiotic, was isolated in 1940. In 1942, the antibiotic streptothricin was discovered and studied, a highly active against the *M. tuberculosis*, but too toxic. In 1943, together with graduate student Albert Schatz, two strains of *Actinomyces* were isolated, which produced a substance with antibiotic activity — streptomycin. Streptomycin had shown antibiotic activity against several bacteria, including *M. tuberculosis*. The drug was not toxic to animals. The great practical prospects of streptomycin for the treatment of tuberculosis and other infections led to the award of the Nobel Prize in Physiology or Medicine in 1952. Dr. Waksman introduced and popularized the term "antibiotic" in microbiology. He published more than 447 articles and wrote, independently or with co-authors, 28 books. When the Nobel Prize was awarded to the developer of streptomycin, a drug that saved thousands of human lives, the outstanding scientist was recognized as one of the greatest benefactors of mankind.

Key words: Selman Abraham Waksman, streptomycin, tuberculosis, history of medicine.

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