

NIH Immunotherapy Pioneer Steven Rosenberg Awarded Nation's Highest Honor for Technology and Innovation

Rosenberg pioneered cancer treatments including tumor-infiltrating lymphocytes and CAR-T therapy.

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Immunotherapy pioneer [Steven A. Rosenberg, MD, PhD](#), has been awarded the National Medal of Technology and Innovation by President Biden. It is the nation's highest honor for technological achievement. Dr. Rosenberg is chief of the Surgery Branch at the [Center for Cancer Research](#) at the National Cancer Institute, part of the National Institutes of Health.

Awarded by the President of the United States, the National Medal of Technology and Innovation recognizes outstanding contributions to America's economic, environmental, and social well-being. Dr. Rosenberg [received] his medal from President Biden at a White House ceremony on October 24, 2023. The distinguished oncologist is among nine individuals and a team of three receiving the award this year.

Dr. Rosenberg helped pioneer the development of immunotherapy, a form of treatment that helps a person's own immune system fight cancer. He identified the anti-cancer properties of a hormone, interleukin-2, that became the first cancer immunotherapy approved by the U.S. Food and Drug Administration.

He was the first to identify immune cells with cancer-fighting properties, called tumor-infiltrating lymphocytes, or TILs. He developed a form of treatment known as adoptive cell transfer (ACT) immunotherapy, in which TILs are extracted from a tumor, grown to large numbers in the lab, and then administered back to a patient as a "living drug" to shrink their tumors. ACT is now being developed by hundreds of academic and industrial centers to treat people with cancer.

Dr. Rosenberg was the first to introduce foreign genes into patients, a development that opened the field of human gene therapy, now being widely studied for many diseases. He was the first to use genetically engineered immune cells, known as CAR T cells, to treat patients with aggressive lymphomas.

In recent work, a clinical trial that Dr. Rosenberg is leading on the use of TILs to selectively target

cancer cells [led to complete and partial shrinkage of tumors](#) in women with metastatic breast cancer. He is also [using TILs to develop personalized cancer immunotherapies](#) for patients whose cancers do not respond to standard treatments.

This [news release](#) was published by the National Institutes of Health on October 24, 2023.

Click here to read a [Cancer Health interview](#) with Jamie Troil Goldfarb, who was treated with TIL therapy developed by Dr. Rosenberg.

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