

The American Association of Immunologists

Press Release



Immunologist Awarded 2023 Nobel Prize in Medicine for mRNA Vaccine Research

Immunologist Dr. Drew Weissman and colleague Dr. Katalin Karikó recognized for discoveries that led to world's first COVID-19 vaccines; Nobel highlights important role of immunology in public health

ROCKVILLE, MD (October 2, 2023) — The Nobel Assembly in Solna, Sweden, announced this morning that the 2023 Nobel Prize in Physiology or Medicine has been awarded to the University of Pennsylvania research team of Dr. Drew Weissman and Dr. Katalin Karikó, whose years of scientific partnership led to an understanding of how to modify mRNA to make it an effective therapeutic—and to rapidly develop lifesaving vaccines amid the global COVID-19 pandemic.

Dr. Weissman is an immunologist and the Roberts Family Professor of Vaccine Research in the Perelman School of Medicine. Dr. Karikó is a biochemist and an adjunct professor of neurosurgery in Penn's Perelman School of Medicine. Their work became the foundation for Pfizer and its Germany-based partner BioNTech, as well as Moderna, to use a new approach to produce vaccines that use messenger RNA or mRNA.

Weissman is the latest in a long history of no fewer than 28 immunologists who have been awarded a Nobel Prize for their innovation and achievements in immunology and related disciplines since the prize was first offered in 1901. These range from early 20th century discoveries elucidating fundamental properties of blood to more recent breakthroughs that have led to better understanding and successful clinical treatments of both ancient scourges like cancer and novel diseases such as COVID-19.

“Each time an immunologist receives a Nobel Prize, it once again demonstrates the crucial contributions of immunological research to the extraordinary medical advances of the past century,” said AAI President Dr. Akiko Iwasaki. “It is a wonderful opportunity to highlight to the public the role that scientific research and the field of immunology have played in saving lives. It is also a chance to capture people’s interest in learning just a little bit more about the immune system, which can often seem mysterious or too complex. It’s actually a beautiful system designed to protect us from infectious agents.”

Immunologists continue to make important scientific advances and discoveries with broad-reaching possibilities. The Nobel Prize is a reminder of the critical need to fund immunological research, even as the U.S. government continues its deadlock on a spending bill for fiscal year 2024. “The U.S. Congress must give careful consideration to the unintended consequences of freezing or cutting federal research funding,” said AAI CEO Dr. Loretta Doan. “AAI has recommended a \$3.5 billion increase in NIH funding for the upcoming fiscal year to invest in vital immunological research to facilitate the discovery of new ways to prevent, cure, and treat disease, and to help support the growth and development of our outstanding

biomedical research enterprise.”

No more than 15 years have ever elapsed between instances of the Nobel Prize being bestowed on an immunologist, and on two occasions AAI members have been honored in successive years. For more about the history of the Nobel Prize and immunology, visit www.aai.org/NobelHistory.

About The American Association of Immunologists

Founded in 1913, The American Association of Immunologists (AAI) (www.aai.org) is an association of professionally trained scientists from all over the world dedicated to advancing the knowledge of immunology and its related disciplines. AAI members have been responsible for some of the most significant immunological discoveries of the past century, including the development of cancer immunotherapies, monoclonal antibodies, transplant technologies, and dozens of life-saving vaccines. The organization counts many [Nobel Laureates](#) among its members. AAI owns and publishes [The Journal of Immunology](#), the oldest and most established journal in the field, as well as [ImmunoHorizons](#), an open-access, peer-reviewed journal dedicated to the science of immunology.

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