



Photo Courtesy of Barney Graham

Barney Graham

Structure-Based Vaccine Design

U.S. PATENT NO. 9,738,689: Prefusion RSV F proteins and their use

U.S. PATENT NO. 10,960,070: Prefusion coronavirus spike proteins and their use

Inducted in 2025 Born: July 9, 1953

Primary Connections:

- Morehouse School of Medicine: Director of the David Satcher Global Health Equity Institute; Professor of Medicine and Microbiology, Biochemistry and Immunology; 2022-present
- National Institutes of Health (NIH) National Institute of Allergy and Infectious Diseases (NIAID), Vaccine Research Center: Deputy Director and Chief of the Viral Pathogenesis Laboratory, 2000-21
- Vanderbilt University School of Medicine: Faculty Member; Fellowship, Infectious Disease, 1984-2000
- Vanderbilt University School of Medicine: internship, residency, and chief residencies, 1979-84

Education:

- Rice University: B.S., Biology, 1975
- University of Kansas School of Medicine: M.D., 1979
- Vanderbilt University: Ph.D., Microbiology and Immunology, 1991

Key Memberships/Awards:

- National Academy of Sciences: Member, 2022; John J. Carty Award for the Advancement of Science, 2022
- Albany Prize for Medicine and Biomedical Research, 2021
- Sabin Vaccine Institute: Albert B. Sabin Gold Medal, 2021

Immunologist and virologist Barney Graham and structural biologist Jason McLellan used structure-based vaccine design to stabilize and modify surface proteins of viruses. They applied their discoveries to the development of COVID-19 vaccines, contributing to billions of doses administered since 2020. The first vaccines approved for respiratory syncytial virus (RSV) are also based on their work.



Full Bio: <https://www.invent.org/inductees/barney-graham>

Things You Should Know:

- Graham was born in 1953 in Kansas City, Missouri.
- Growing up in Olathe, Kansas, he enjoyed playing football, basketball and baseball, and he developed a lifelong love of mathematics. "I loved the way numbers fit together."
- Graham is the recipient of the Maxwell Finland Award for Scientific Achievement, the Charles Mérieux Award for Achievement in Vaccinology and Immunology from the National Foundation for Infectious Diseases, and the Samuel J. Heyman Service to America Medal, Federal Employee of the Year.
- He has been awarded distinguished alumni awards from Vanderbilt University, the University of Kansas Medical Alumni Association, and Rice University.
- Graham is a member of the National Academy of Sciences.
- He has received many awards from the federal government for the development of vaccines and/or monoclonal antibodies against Chikungunya, Malaria, Ebola, Zika and COVID-19.
- Graham says of his career, "I feel very privileged. I spent the first part of my life as a clinician and clinical trials physician, and then a scientist, and now more of a policy person. So I'm kind of reinventing a new thing now."
- Graham has 38 U.S. patents.