

Coronavirus vaccine program



Translating science
into global health impact

IAVI and partners are leveraging our extensive vaccine development expertise to develop a vaccine to prevent COVID-19, with a focus on equitable global access.

Built on established, effective technology for accelerated development and approval

The need for a greater global supply of safe, broadly effective SARS-CoV-2 vaccines remains urgent. Many experts predict that SARS-CoV-2 will become endemic after the pandemic recedes. In this scenario, vaccines will continue to be needed to protect communities or entire populations in the evolving future landscape of COVID-19. Therefore, continuing research into vaccines is necessary to meet future public health needs.

The IAVI coronavirus vaccine program leverages our expertise in recombinant vesicular stomatitis virus (rVSV) vector technology developed through our rVSV HIV vaccine candidate and viral hemorrhagic fever vaccine candidates in preclinical and clinical development. As the vector used for ERVEBO®, the highly effective FDA-licensed Ebola virus vaccine developed by Merck, rVSV has demonstrated success.

For the IAVI rVSV-based coronavirus vaccine candidate (rVSVΔG-SARS-CoV-2), our scientists have replaced the VSV gene coding for the VSV surface protein with a gene coding for the surface protein of SARS-CoV-2. The vaccine candidate is safe in humans when administered intramuscularly and has been produced at scale to support larger future clinical trials.

The approved COVID-19 vaccines available today lack the durability and the ability to fully block transmission and breakthrough infection. IAVI is continuing development of our vaccine candidate to determine if intranasal administration can trigger an immune response in the respiratory tract that prevents breakthrough infection. Further, IAVI is responding to the continued evolution of SARS-CoV-2 by including variants of concern in our vaccine constructs and preclinical research.

International development priority

IAVI's work on rVSVΔG-SARS-CoV-2 is funded by the U.S. government through the CARES Act and the Department of Defense – Defense Threat

IAVI coronavirus vaccine candidate



Based on rVSV vector used to develop the Ebola vaccine that was 100% efficacious in a trial in Guinea



IM administration found to be safe, pre-clinical testing underway on intranasal administration



Accelerated production of vaccine for clinical trials



Scalable technology for high-volume commercial production

Reduction Agency. The Government of Japan has also committed funds to advance IAVI's work on COVID-19 vaccines to answer the need for a globally accessible COVID-19 vaccine that can block the continued spread of SARS-CoV-2.

IAVI's Vaccine Design and Development Lab in New York

Much of the research and development on IAVI's rVSV platform is performed at the IAVI Vaccine Design and Development Lab (DDL). The DDL is located at the bioscience center (BioBAT) in the historic Brooklyn Army Terminal in New York. Since its founding in 2008 the IAVI DDL has become one of the world's leading viral vector vaccine research and development labs, known for innovation and generation of novel vaccine design concepts.

The IAVI DDL's Biosafety Level (BSL) 2 laboratories are outfitted for molecular cloning, cell culture, virology, protein chemistry, and immunology research.

IAVI's emerging infectious diseases vaccine candidates

Vaccine	Funder/partner	Stage
SARS Coronavirus 2 rVSVΔG-SARS-CoV-2	Department of Defense – Defense Threat Reduction Agency; Government of Japan	Preclinical
Lassa Fever Virus rVSVΔG-LASV-GPC*	CEPI; European & Developing Countries Clinical Trials Partnership	Phase I
Marburg Virus rVSVΔG-MARV-GP*	U.S. Department of Defense, Defense Threat Reduction Agency	Preclinical
Ebola Sudan Virus rVSVΔG-SUDV-GP*	U.S. Department of Health and Human Services, Biomedical Advanced Research and Development Authority	Clinical

*Technology licensed from the Public Health Agency of Canada. Partners: Batavia Biosciences; Center for Global Infectious Disease Research; George Washington University; KAVI-Institute of Clinical Research (Kenya); Kenema Government Hospital (Sierra Leone); La Jolla Institute for Immunology; Merck & Co., Inc.; MRC/UVRI and LSHTM Uganda Research Unit; National Public Health Institute of Liberia; Projet San Francisco/ Center for Family Health Research (Rwanda); Ragon Institute of MIT, MGH, and Harvard; Tulane University; University of Texas Medical Branch.

Sources available at iavi.org/fact-sheets-sources

IAVI gratefully acknowledges the generous support provided by the following major funders:



Biomedical Advanced Research and Development Authority (BARDA) | Foundation for the National Institutes of Health | National Institute of Allergy and Infectious Diseases | amfAR, The Foundation for AIDS Research | Broadway Cares/Equity Fights AIDS | The City of New York, Economic Development Corporation | Congressionally Directed Medical Research Program (DoD) | GSK | The Hearst Foundations | Keith Haring Foundation | Merck & Co., Inc., Kenilworth, NJ, USA (known as MSD outside the USA and Canada)

And many other generous individuals and partners around the world

As of January 2024