



Moderna Announces mRNA Immunotherapy Research Collaboration with Harvard University

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Collaboration seeks to explore fundamental immunological processes and identify potential therapeutic opportunities

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Sep. 26, 2019-- Moderna, Inc., (Nasdaq: MRNA) a clinical-stage biotechnology company pioneering messenger RNA (mRNA) therapeutics and vaccines to create a new generation of transformative medicines for patients, today announced a multi-year research collaboration with Harvard University with the goal of identifying and developing novel therapeutic approaches that could improve the lives of patients with immunological diseases. Additional funding from Moderna to Harvard Medical School (HMS) will establish an initiative at HMS called the Alliance for RNA Therapies for the Modulation of the Immune System (ARTiMIS), which will enable basic science research in the field of immunology using Moderna's mRNA and nanoparticle delivery technology. The HMS Department of Immunology is hosting a symposium with Moderna to launch the ARTiMIS initiative today.

"Immunological dysfunction is at the heart of many of the biggest medical challenges faced today. Harvard University and its affiliated medical institutions are leaders in advancing basic and translational science to better understand the biological mechanisms of these complex disorders," said Stephen Hoge, M.D., president at Moderna. "We believe that combining our technical capabilities in mRNA delivery with Harvard Medical School's expertise in immunology will lead to innovative therapies with the potential to make a significant impact on people's lives."

The ARTiMIS initiative will enable HMS-affiliated investigators to access Moderna's platform for mRNA and novel immune delivery and will provide financial support for exploratory research projects, including the work of postdoctoral researchers at HMS. Moderna has provided the initial funding for ARTiMIS through a \$1.2 million grant and will also provide investigators with mRNA and nanoparticle delivery technology and materials. Projects selected for funding by ARTiMIS will aim to advance basic understandings of fundamental immunological processes, generate new mechanistic insights in the pathogenesis of immunological diseases and discover novel approaches to the prevention, diagnosis and therapy of human diseases.

"ARTiMIS provides an exciting opportunity for the HMS Immunology community to utilize Moderna's mRNA and delivery technology to advance the field of immunology, toward our shared goal of serving patients," said Arlene Sharpe, M.D., Ph.D., chair of the Department of Immunology and co-director of the Evergrande Center for Immunologic Diseases at Harvard Medical School. "By combining the talents of leading immunologists at Harvard with this innovative technology, we hope to enable new discoveries in multiple areas of immunology."

To further advance insights toward therapeutics, Moderna has also entered into a multi-year research agreement with the university at large, through the Harvard Office of Technology Development. Under this collaboration framework, Moderna will initially provide sponsored research funding of up to \$2.45 million in support of a project led by Ulrich von Andrian, M.D., Ph.D., the Edward Mallinckrodt Jr. Professor of Immunopathology and Director of the Center for Immune Imaging at HMS. This project aims to use mRNA technologies to study and manipulate the migration of immune cells from blood to tissues.

"Between the ARTiMIS initiative and the broader research collaboration between Moderna and Harvard, we have established a collaborative framework to support continuous innovation in immunology," said Isaac Kohlberg, Harvard's Chief Technology Development Officer and Senior Associate Provost. "This access to focused funding and technical resources will enable Harvard researchers to make impactful advances in biomedical science, from the generation of basic biological insights to, we hope, the preclinical development of new immunotherapies."

About Moderna

Moderna is advancing messenger RNA (mRNA) science to create a new class of transformative medicines for patients. mRNA medicines are designed to direct the body's cells to produce intracellular, membrane or secreted proteins that can have a therapeutic or preventive benefit and have the potential to address a broad spectrum of diseases. Moderna's platform builds on continuous advances in basic and applied mRNA science, delivery technology and manufacturing, providing the Company the capability to pursue in parallel a robust pipeline of new development candidates. Moderna is developing therapeutics and vaccines for infectious diseases, immuno-oncology, rare diseases and cardiovascular diseases, independently and with strategic collaborators.

Headquartered in Cambridge, Mass., Moderna currently has strategic alliances for development programs with AstraZeneca, Plc. and Merck, Inc., as well as the Defense Advanced Research Projects Agency (DARPA), an agency of the U.S. Department of Defense; the Biomedical Advanced Research and Development Authority (BARDA), a division of the Office of the Assistant Secretary for Preparedness and Response (ASPR) within the U.S. Department of Health and Human Services (HHS). Moderna has been ranked in the top ten of *Science's* list of top biopharma industry employers for the past four years. To learn more, visit www.modernatx.com.

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