Collaboration will test a COVID-19 vaccine candidate

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Credit: University of Alabama at Birmingham

The University of Alabama at Birmingham is launching a collaboration with the biopharmaceutical company Altimmune, Inc. for preclinical testing of a potential vaccine to prevent COVID-19 disease.

The testing at UAB will investigate immune responses to the vaccine in mice—a key step before the Gaithersburg, Maryland-based Altimmune

can launch a Phase 1 human safety and immunogenicity trial in patients in Q3 of this year. The COVID-19 vaccine, called AdCOVID, is a single-dose vaccine candidate that is delivered by an intranasal spray.

Altimmune created AdCOVID in response to the COVID-19 global pandemic. The company has significant experience in the development of intranasal vaccine candidates for respiratory pathogens, including a seasonal and pandemic influenza vaccine and a vaccine for inhalation anthrax. The anthrax vaccine candidate is being developed under a $133.7 million contract with the U.S. Biomedical Advanced Research and Development Authority.

"We are eager to collaborate with Altimmune on this important project," said Frances E. Lund, the Charles H. McCauley Professor and Chair for the UAB Department of Microbiology. "The expertise and infrastructure at UAB will be invaluable to the rapid progression of this vaccine into clinical studies," she added.

Six UAB labs will work together on this urgent collaboration with Altimmune. "This project will be our highest priority for the group in the next few months as the goal is to get the data to Altimmune as rapidly as possible, so that they will use the information gained from the preclinical study to design their clinical trial in people," Lund said.

In addition to Lund's lab, the labs are led by Troy Randall, Ph.D., professor of medicine in the UAB Division of Clinical Immunology and Rheumatology; Kevin Harrod, Ph.D., professor in the UAB Department of Anesthesiology and Perioperative Medicine; and three more UAB Department of Microbiology labs led by Rodney King, Ph.D., assistant professor, Todd Green, Ph.D., associate professor, and John Kearney, Ph.D., professor.

"It is critical that the biotechnology industry and academic institutions

work together to prevent the further spread of COVID-19, and UAB is an ideal partner to support us in this effort," said Vipin K. Garg, Ph.D., president and chief executive officer of Altimmune. "UAB has an impressive track record of cutting-edge research in virology and immunology, as well as in the clinical development of vaccines. In fact, Altimmune was founded through a technology license from UAB in 1997. We are excited to collaborate with UAB in our efforts, and we look forward to addressing this crisis together."

UAB also has extensive experience in conducting clinical studies of vaccines and has participated in studies sponsored by the Vaccine Evaluation and Trial Unit, part of the National Institute of Allergy and Infectious Diseases at the National Institutes of Health.

Altimmune expects that the COVID-19 vaccine candidate will activate mucosal and cellular immune responses, as well as a strong antibody response in the blood, as was found for its influenza vaccine candidate, which uses the same proprietary intranasal vaccine technology. If the AdCOVID vaccine candidate is as stable as Altimmune's influenza and anthrax vaccines candidates, that may allow inexpensive and efficient distribution of the millions of doses needed for widespread vaccination of populations.

At UAB, Randall holds the William J. Koopman Endowed Professorship in Rheumatology and Immunology, Harrod holds the Benjamin Monroe Carraway, M.D., Endowed Chair in Anesthesiology and Kearney holds the Endowed Professorship in Immunology.

Provided by University of Alabama at Birmingham

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