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The non-profit International AIDS Vaccine Initiative (IAVI) and biopharmaceutical company CureVac are partnering to accelerate the development of AIDS vaccines, utilizing novel immunogens developed by IAVI and partners, delivered via CureVac's novel messenger. The same was announced on September 11, 2015 at New Delhi.

HIV's envelope protein or "trimer" is the primary target for antibodies that can neutralize a wide range of the virus' strains, and which hold enormous promise in the quest for efficacious and broadly applicable AIDS vaccines. In a major breakthrough, researchers have recently designed immunogens that successfully mimic this trimer.

In this collaboration, IAVI has selected one of its leading HIV trimer constructs to launch the mRNA evaluation in small-scale clinical trials: mRNA that encodes for the chosen trimer mimic will be constructed using CureVac's RActive® technology and injected with the aim of stimulating the body to produce HIV trimer proteins and then related neutralizing antibodies. To date, most AIDS vaccine candidates have been based on DNA, viral vectors or protein. Using mRNA could accelerate the development and testing of AIDS vaccine candidates.

"This collaboration could be a real game-changer," said IAVI Chief Scientific Officer Wayne Koff. "The development of vaccines that can generate neutralizing antibodies against HIV is a top priority for IAVI and many other researchers.

Researchers at IAVI's Neutralizing Antibody Center at The Scripps Research Institute and elsewhere have designed several novel immunogens that have the potential to elicit such antibodies. We are very hopeful that using mRNA will enable us to develop and test these immunogens comparatively quickly, saving both time and money."

"IAVI is an ideal partner to bring highly innovative HIV vaccine designs into human testing," said CureVac co-founder and CEO Ingmar Hoerr. "We are excited to benefit from IAVI's expertise in AIDS vaccine development, and its network and experience across the United States, Europe, Africa and India and to accelerate such development on the basis of our RNAActive® technology."

CureVac is pioneering the use of natural and chemically unmodified mRNA as a data carrier to instruct the human body to produce proteins capable of fighting a wide range of diseases. CureVac's mRNA- based vaccine candidates are also thermostable, which eliminates the need for cold-chain storage and infrastructure that pose a major challenge in vaccine supply in developing countries.

Under the terms of the agreement, IAVI will provide several stabilized HIV envelope trimer sequences, which CureVac will transfer into its RNAActive® technology for preclinical and clinical development. The partners will work with U.S., German and African health authorities with an eye to initiating clinical trials in India.