For the first time, humans are receiving an HIV vaccine candidate developed at OHSU’s Vaccine & Gene Therapy Institute.

San Francisco-based Vir Biotechnology Inc. announced Wednesday that the first patient received a dose in late December, as part of a Phase 1 clinical trial of the investigational vaccine, called VIR-1111. Vir licensed the vaccine platform and acquired the OHSU spinoff TomegaVax in late 2016.

The trial is a milestone for the research begun by Dr. Louis Picker about two decades ago. The platform is designed to elicit abundant T cells that are programmed to attack virus-infected cells. The trial is designed to test whether the vaccine can elicit protective immune responses that differ from other HIV vaccines, Vir said in its announcement.

Picker and Klaus Frueh, who both led the team of OHSU scientists who developed the viral vector technology, said if successful, the approach "could provide an entirely new set of tools for vaccine development."

The basis of the vaccine is the common herpes virus, or cytomegalovirus, which is a novel approach. The virus triggers a strong response from immune cells called effector-memory T cells.

Picker in 2013 published a scientific paper revealing that the vaccine candidate had cleared the simian form of HIV from the bodies of monkeys.
Vir Biotech, which is backed by the Gates Foundation, among others, was formed to take on challenging infectious diseases. Picker, Frueh and their OHSU scientist-colleagues Scott Hansen and Jay Nelson were among Vir’s co-founders.

The platform is also being explored as a possible vaccine against tuberculosis and malaria, as well as cancer.

The trial is randomized and placebo-controlled to evaluate the safety and vaccine’s ability to induce an immune response. It is enrolling healthy adults who are considered to be at low risk of HIV infection and who were previously infected with the human cytomegalovirus. They will receive two doses of the drug or placebo by subcutaneous injection. OHSU is not a site in the clinical trial.

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