Cincinnati Children's | Innovation Ventures

Infectious Disease

Bivalent VLP Ebola Vaccine

Brief Description of Technology

Bi-valent spherical virus like particle (VLP) vaccine against Ebola virus.

TECHNOLOGY ID

2017-0207

BUSINESS OPPORTUNITY

Exclusive License or Sponsored Research

TECHNOLOGY TYPE

Biologic Therapy

PATENT INFORMATION

Nationalized

LEARN MORE

Innovation Ventures

partnering@cchmc.org

1.513.636.4285

innovation.cincinnatichildrens.org

Technology Overview

Since its discovery in 1976, there have been 30 outbreaks and 40,000 cases of Ebola. There are a billion people at risk in Central and West Africa where this disease is endemic. The small relative risk of infection precludes routine population-wide vaccination. However, the horrible human and economic devastation caused by outbreaks warrants investment in preventative vaccination strategy for those at risk during and after outbreaks. Cincinnati Children's has developed a bivalent vaccine to prevent Ebola virus disease (EVD). Although several leading candidate Ebola vaccines have advanced into clinical testing, additional vaccine candidates are needed to protect against different Ebola species and to provide quick, durable protection. A novel approach demonstrated here is to express two genetically diverse glycoproteins on a spherical core, generating a vaccine that can broaden and potentially extend protective immune responses against Ebola viruses.

Applications

Prevention of Ebola virus disease (EVD)

Advantages

*bi-valent approach broadens immune response to two important strains (Zaire and Sudan) *potential for neutralizing Ab responses against all four pathogenic Ebola viruses

Market Overview

There are two Ebola vaccines licensed, but both have their limitations. The first is only effective against the Zaire Strain. The second is a prophylactic series of two shots administered over 8-weeks that does not provide immediate protection during outbreaks and requires frequent boosters. Thus, there remains an urgent need to develop a vaccine that will provide timely, durable protection against all four pathogenic Ebola virus species (Zaire (EBOV), Sudan (SUDV), Bundibugyo (BDBV) and Tai Forest (TAFV)).

Investigator Overview

Dr. Paul Spearman, Div. of Infectious Diseases Dr. Karnail Singh, Div. of Infectious Diseases