Parvovirus B19 Vaccine

Description of Technology: Parvovirus B19 (B19V) infection causes fifth disease, a disease characterized by rashes to the face and other parts of the body that primarily affects children. However, adults can also develop fifth disease and it can lead to more severe conditions. Patients that are immunocompromised, such as those who are HIV infected, organ transplant recipients, and cancer patients, can be particularly susceptible to more severe outcomes from B19V infection. Infection can also cause anemia and in pregnant women, it can lead to hydrops fetalis.

The subject technologies are expression vectors for the production of B19V VP1 and VP2 capsid proteins. Co-expression of the two proteins produce empty virus-like particles (VLPs) that can be used to develop a vaccine against parvovirus B19 and a packaging system for infectious B19V virus. Different expression vectors have been developed and optimized for expression in insect cells and more recently in mammalian cell lines such as 293, Cos7, Hela cells and 293T cells.

Potential Commercial Applications: Vaccine against parvovirus B19V.

Competitive Advantages: There is currently no B19V vaccine on the market.

Development Stage:
- Early-stage
- Pre-clinical

In vitro data available
- In vivo data available (animal)
- In vivo data available (human)

Inventors: Neal S. Young, Takashi Shimada, Sachiko Kajigaya, Ning Zhi (NHLBI)

Publications:

Collaborative Research Opportunity: The NHLBI Lipoprotein Metabolism Section is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize Hydrocarbon-stapled Apolipoprotein Peptide Mimetics for the Treatment of Cardiovascular Diseases and Inflammation. For collaboration opportunities, please contact Denise Crooks, Ph.D. at crooksd@nhlbi.nih.gov.

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