Development of Virus like particle (VLP) vaccine and reporter assay for ZIKA virus

Technology #d-1406

The Zika virus outbreaks throughout the world have prompted an immediate need for a vaccine. Currently, there is not an approved vaccine to treat Zika and application of DNA based vaccines has posed severe risks, such as insertional mutagenesis. Due to these threats, the FDA is unlikely to approve DNA based vaccines.

This invention has identified a method of creating a vaccine for the Zika virus, which is not DNA based, providing a safer and more effective treatment approach. The research has identified a mechanism of modifying the Zika virus to create VLPs that are capable of inducing an immunogenic response. Additionally, the research has identified a reporter VLP by coupling the modified Zika virus with the backbone of a specific virus reporter gene—demonstrating neutralization of the VLPs by the host's antibodies. The invention is also multifaceted, featuring various cell lines utilized to construct the VLPs, the assay, and the overall vaccine.

Reference Number: D-1172

Market Applications:

- Vaccine mechanisms
- Vaccine research
- Tropical medicine
- Pharmaceuticals
- Immunology and virology research

Features, Benefits & Advantages:

- Alternative to DNA based vaccines
- Treatment of a virus that has been linked to microcephaly in fetuses
- Presents a solution to significant global need

Intellectual Property: A U.S. Provisional Patent application, Serial 62/522,655 was filed on 06/20/17.

Development Stage: This invention has been reduced to practice and is currently at the proof of concept stage in development.

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