



NAVAL MEDICAL RESEARCH CENTER



Dengue Vaccine Licensing Opportunity

Background

Dengue is the most common mosquito-borne viral disease of humans that in recent years has become a major international public health concern. There are four antigenically distinct serotypes of dengue virus have been identified which all cause human diseases. Although similar, each serotype is sufficiently distinct to elicit only partial cross-protection following infection.

Therefore, an effective vaccine against dengue must be effective across all four distinct serotypes of dengue virus that cause human infections. The NMRC's dengue research team is pursuing enhanced tetravalent approaches for eliciting dengue vaccine immune response using a prime boost strategy.

Technology

To date, NMRC vaccine solutions are proving to be clinically superior to current tetravalent live-attenuated vaccine candidates which have appeared to be either reactogenic or insufficiently immunogenic in some recipients. The NMRC's novel and improved approaches for eliciting dengue vaccine immune response use cutting edge prime boost strategies. The team is now seeking a commercial partner s to collaborate and commercialize their portfolio of dengue diagnostic and vaccine candidates.

Market

The current geographical spread of both the mosquito vectors and the viruses have led to a global resurgence of epidemic dengue fever, dengue hemorrhagic fever and dengue shock syndrome which are potentially fatal.

These epidemics are increasing globally with rising numbers in the Americas, and in Asia. The WHO estimates that 2.5 billion people – two fifths of the world's population – are now at risk from dengue with 50-100 million dengue infections worldwide every year. Given the recent explosion in outbreaks there have been increased government and industry efforts to support dengue vaccine research and evaluation.

BENEFITS:

- More effective across all four serotypes
- Rapid immune response
- Single dosing

Dengue Diagnostic and Vaccine Patents for License

**U.S. Patent 6,455,509:
*Dengue Nucleic Acid
Vaccines that Induce
Neutralizing Antibodies***

**U.S. Patent Application
60/860,233: *Induction
of an Immune Response
Against Dengue Virus
Using the Prime Boost
Approach (WIPO 99012
published)***

**U.S. Patent Application
12/838,449: *A Psoralen-
Inactivated Dengue Virus
Vaccine and Method of
Preparation***

**U.S. Patent 5,895,651:
*Recombinant Dengue
Virus Envelope
Protein/Maltose-Binding
Protein Antigens and
Subunit Vaccine
Compositions Containing
Said Antigens***

**Provisional Application:
*RT-Lamps Assay for the
Detection of Dengue
Virus***

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