Tetravalent Dengue Fever Vaccine

A vaccine effective against all four strains of the Dengue virus.

Problem Solved by This Technology
Mosquito-transmitted dengue fever is the most common emerging tropical infectious disease after malaria. In fact, dengue fever is actually more common than malaria among travelers to much of the developing world. An estimated 100 million cases of dengue infection occur annually creating considerable economic burden on many of the fastest growing economies. There is no available dengue vaccine or proven antiviral treatment.

Applications
Dengue fever can be caused by four distinct viral strains. Exposure to one does not provide immunity to the others. Sequential infections by the different viral strains increases the severity of life-threatening hemorrhagic responses, having a dramatic negative impact on a patient’s likelihood of survival. Researchers at the University of Rochester have developed a novel approach with the potential to develop a vaccine against all four serotypes of the dengue virus. The vaccine has been tested in a mouse model (see below), and in non-human primates with promising results.

Publication

Intellectual Property Status
Patent application pending in the United States.