Hsin-Wei Chen, J Vaccines Vaccin 2017, 8:3(Suppl)
DOI: 10.4172/2157-7560-C1-057



# Recombinant lapidated subunit vaccines induce robust immunity against all four serotypes of dengue virus

**Hsin-Wei Chen**
National Health Research Institutes, Taiwan

Our group developed a novel platform to express high levels of recombinant lipoproteins with intrinsic adjuvant properties using an Escherichia coli-based system. These recombinant lipoproteins can activate antigen-presenting cells and induce robust immunity in the absence of exogenous adjuvant formulation. Based on this technology, we developed recombinant lipidated dengue envelope protein domain IIIs as vaccine candidates against dengue virus. In this work, we aim to evaluate the immune responses in mice to the tetravalent formulation. The tetravalent formulation can induce high antibody titers that are stable over a prolonged period of time without exogenous adjuvant formulation. Meanwhile, these antibodies are of high affinity and can neutralize all 4 serotypes of dengue virus. Importantly, the tetravalent formulation elicits multivalent T-cell responses with a wide spectrum of T-cell epitope profiles against all 4 serotypes of dengue virus. These represent important features on dengue vaccine development. Our results reveal that the tetravalent formulation can induce a broad spectrum of immunity in mice, which lays a foundation for further detailed clinical studies.

## Biography

Hsin-Wei Chen has initiated the development of dengue vaccines project in NHRI. His team has developed a novel dengue vaccine candidate that induces cross-neutralizing antibodies and memory immunity. Most important, they developed recombinant lipidated dengue subunit vaccine candidates. These candidates independently stimulate long-lasting neutralizing antibodies and reduce the risk of antibody-dependent enhancement. The immune responses induced by the tetravalent formulation in the absence of the exogenous adjuvant are functional in clearing the 4 serotypes of dengue virus in *vivo*.

chenhw@nhri.org.tw

**Notes:**