

VACCINES FOR DENGUE FEVER CONTROL DELIVERED VIA INTRADERMAL AND TRANSCUTANEOUS ROUTES

The search for an effective vaccine against dengue is a global priority. Currently vaccines in advanced development stages are based on attenuated or recombinant viruses. However, difficulties encountered in the induction of balanced immune responses and, above all, safety issues suggest that innovative vaccine strategies against the disease should be supported. The proposed research aims to develop a novel vaccine formulation against dengue using administration routes (intradermal and transcutaneous) more compatible with the natural infection process. The vaccine strategy is supported by four technological advances achieved by the Laboratory of Vaccine Development at USP in the last few years, namely: (i) development of technology for production of DENV2 recombinant structural (envelope) and nonstructural (NS1) proteins with structural and immunological features similar to the native viral proteins, (ii) development and production capacity of adjuvants (derived from the heat-labile toxin produced by enterotoxigenic strains of *Escherichia coli*) with ability to increase and modulate immune responses after i.d. and t.c. administration; (iii) established expertise on administration of vaccines in experimental models using the i.d and t.c. (including preparation of adhesive vaccine patches); and (iv) discovery of a new experimental model for evaluation of vaccine protective effects and safety with a DENV2 isolate naturally capable to infect mice and reproduce symptoms seen in severe cases the disease.

PRINCIPAL INVESTIGATOR

LUIS CARLOS DE SOUZA FERREIRA
Institute of Biomedical Sciences (ICB)
University of São Paulo (USP)

ABOUT THE PROJECT

FAPESP Process 2012/50362-3
Term: Sep 2013 to Aug 2015
Research Partnership for Technological Innovation (PITE)
GLAXOSMITHKLINE (GSK) BRASIL LTDA.

CONTACT

✉ icsf@usp.br