Conclusion: Our results demonstrate that vaccination of camels with MVA-S confers protection against MERS-CoV infection. In addition, induction of MVA specific antibody cross neutralizes camelpox virus, suggesting that MVA-MERS-S can be used as a dual vaccine in dromedary camels.

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Integrated analysis of immunogenicity data from 11 dengue vaccine trials across 14 countries at risk for dengue

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Background: Dengue is a mosquito-borne viral infection with a very rapid global expansion during the last 50 years. This disease has become an important public health problem in Asia and Latin America with over half the world’s population at risk.1 Sanofi Pasteur is developing a recombinant, live, attenuated, tetravalent dengue vaccine (CYD-TDV) for countries at-risk of dengue.2 The results from CYD-TDV trials are useful to observe the trends in immunogenicity (GMT) titres across various countries.

OBJECTIVES: To assess immunogenicity titres after 3 doses of CYD dengue vaccine in children, adolescents and adults up to 60 years by revisiting pre- and post-vaccination GMTs from Sanofi Pasteur CYD-TDV trials.

Methods & Materials: Dengue neutralizing antibody (Ab) levels were assessed by a plaque neutralization test with a 50% endpoint (PRNT50) for each serotype. In total, 25 clinical studies from Phase I to Phase III have been included in the clinical development plan. Of these 25 clinical studies, the integrated immunogenicity analysis presented here is based on results from 11 trials conducted in 8 Asian countries (Philippines, Indonesia, Malaysia, Vietnam, Thailand, Singapore, Australia, and India) and 6 Latin American countries (Brazil, Colombia, Honduras, Mexico, Peru, and Puerto Rico).

Results: Immune titres increased after 3 doses from baseline, and higher GMTs were observed with increasing age and endemicity in all countries considered at-risk of dengue. Further exploration in older adults in Australia3 vaccinated with 3 doses of CYD-TDV, revealed that both the 18-60 age group (N=655) and the 46-60 age group (N=241) had similar GMTs which were higher than baseline.

Conclusion: Integrated analysis from CYD-TDV trials in children, adolescents and adults up to 60 years of age showed a consistent finding of higher GMTs in the vaccinated arm versus control arm. Subjects who received 3 doses of CYD-TDV elicited a balanced immune response against all four serotypes.


Preliminary immunoinformatics research for prediction the most immunogenic linear and conformational B-cell epitopes of 14-3-3 antigen in echinococcus granulosus

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Background: Cystic Echinococcosis (CE) is one of the most important zoonosis parasite diseases which caused by the larval stage of Echinococcus granulosus (Eg). The Eg14-3-3 protein is a vaccine candidate antigen which exists in different development stages of E. granulosus. The basement of vaccine design strategies is identification the most efficacious epitopes of the antigen. This study presents linear and conformational B cell epitopes of the Eg14-3–3 antigen via computational tools.

Methods & Materials: The protoscoleces (PSC) of E. granulosus was aspirated from infected lungs and livers of slaughtered sheep (Tabriz, Iran) and then DNA samples were extracted. The polymerase chain reaction (PCR) was performed using specific primers (forward: ATGTCTTCTCAGTAAGCGA and reverse: AATCGGCTTTCGGCGGTC; and also the conformational B-cell epitopes were predicted by Bepipred Linear Epitope Prediction algorithm with threshold 0.35. The conformational B-cell epitopes were predicted using a sequence-based server named CBTOPE which uses the support vector machine (SVM) threshold -0.3, and also the three dimensional (3D) properties of the antigen such as, Relative Solvent Accessibility, Number of Transmembrane Domains and protein tertiary structure prediction. The structural details of Eg14-3–3 which are usable in the epitope-based vaccine design evaluated via SCRATCH Protein Predictor.

Results: The Best linear B-cell epitopes were selected based on their length (<9 amino acids) and score (highest), so that the high scales consist of ATEVAEGDMQTT, DTLPEESYK, EQKHGD-DAK and TGDERKQASDN. Based on CBTOPE algorithm five high