Bogoyavlenskiy Andrey P et al., J Vaccines Vaccin 2015, 6:4
http://dx.doi.org/10.4172/2157-7560.C1.031

OMICS International
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7th Middle East - Global Summit and Expo on
Vaccines & Vaccination
September 28-29, 2015 Dubai, UAE

Saponin matrix induces balanced Th1/Th2 cell responses

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Influenza is one of the most common causes of human morbidity and mortality that is preventable by vaccination. Immunization with available vaccines provides incomplete protection against illness caused by *Influenza virus*, especially in high-risk groups such as the elderly and young children. T cellular responses play a significant role in mediating protective immune responses against influenza. Therefore one of the main requirements for vaccine adjuvants affects cellular immunity. In the current study, we evaluated the ability of reverse genetic H5N1 and H1N1 vaccines adjuvanated with Saponin Matrix M (TM) to induce T cell responses. We vaccinated mice with 30 μg virions alone or 30 μg virions formulated with Saponin Matrix or Aluminum hydroxide. An increase in Th1 and Th2 cytokines was detected 21 days after the first vaccine dose. The concentrations of Th1 and Th2 cytokines at 21 days post-vaccination correlated moderately with serological responses as measured by the hemagglutination inhibition and ELISA assays. Results presented here show that the reverse genetic H5N1 or H1N1 vaccine induced balanced Th1/Th2 cytokine responses and that Saponin Matrix is a promising adjuvant for future development of candidate pandemic *Influenza* vaccines.

Biography

Bogoyavlenskiy Andrey P, ScD, PhD is a Professor and Head of the Laboratory of antivirus protection RGE "Institute of Microbiology and Virology" the Republic of Kazakhstan. His main research directions are study of molecular basis of biological activity of viruses, study the mechanisms of antiviral immunity, development of diagnostic test systems, development of new antiviral and immunostimulatory preparations, development of vaccine preparations and phylogeny of ortho- and *paramyxoviruses*.

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