

8th Indo Global summit and Expo on
Vaccines, Therapeutics & Healthcare
November 02-04, 2015 HICC, Hyderabad, India

Advancing Th1 stimulatory proteins towards development of polypeptide vaccine against Kala-azar

Anuradha Dube, Sumit Joshi, Narendra K Yadav and Keerti Rawat
Central Drug Research Institute, India

Visceral leishmaniasis (VL), a fatal disease affecting millions of individual on global scenario, is the second major life threatening parasitic disease in the world, after Malaria. The disease is prevalent mainly in the region of tropical, subtropical and the Mediterranean countries. Immune response, in particular cell mediated (CMI), is severely suppressed during active VL and the resolution of the parasites relies on its up-regulation. Available treatment for VL bears problems related to toxicity, adverse effects, cost effectiveness etc. Emergence of drug resistance cases poses another major threat to Kala-azar control program. Therefore, vaccine against VL offers viable alternative since the recovered individuals possess life-long protection against re-infection. Amongst various approaches for vaccine development, immune-informatics offers new area for the development of effective vaccine against VL. Defining antigenic portions of protein capable of eliciting a protective immune response is crucial in the development of epitope-based vaccine strategies. Artificial neural network (ANN), support vector machine (SVM) and Hidden Markov Model (HMM) helps in generating new epitope mapping algorithms for predicting novel antigenic sites of a protein which can further be validated for specific triggering of both humoral and cell-mediated immune responses. This talk focuses on the various approaches utilized for the identification of new and potentially vital *Leishmania* Th1 stimulatory proteins/peptides as vaccine entities which further lead to the designing of polypeptide vaccine. This new vaccine approach to treating VL expands host protective immune responses; making the host produce beneficial T-cells that reduce parasite burden and alleviate disease symptoms more quickly.

Biography

Anuradha Dube has completed her PhD from CSIR- CDRI, Lucknow. Presently she is working as a Chief Scientist in Division of Parasitology, CSIR-CDRI. Her research area includes immunobiology of *Leishmania* parasite and development of new screening models. She applied functional proteomics for identifying some parasite molecules possessing Th1 stimulatory property as potential immune-prophylactic agents against VL. She is a well funded and recognized prolific researcher having more than 150 papers in reputed journals and also mentored 16 PhD students. Her research findings have significant potential implications in improving human health and alleviation of human suffering.

anuradhadube@gmail.com

Notes: