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Immunization of mice with cocktail of 36 kDa and 51 kDa proteins of *Leishmania donovani* along with different adjuvants induces protection against visceral leishmaniasis

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L eishmaniasis is a disease that ranges in severity from skin lesions to serious disfigurement and fatal systemic infection. Current treatment is based on chemotherapy which relies on a handful of drugs with serious limitations. Vaccination remains the best hope for control of all forms of the disease. A substantial number of antigens have been identified in past which include gp63, p36/LACK, (CP) B and CPA, HASPB1, LCR1, PSA-2, LeIF, LmST11 and TSA, which induce protection against the target parasite; although very few achieve a degree of efficacy likely to make them candidates for single-antigen vaccines. Therefore, multi-antigen/'cocktail' vaccines are proposed based on the assumption that such cocktails will show enhanced efficacy. Till date, only one multicomponent vaccine LEISH-F3+GLA-SE has reached clinical trials. Recently studies have been carried out on LD31 and LD51 polypeptides from *L. donovani* promastigotes which have proven to be potential vaccine candidates. The 36 kDa-glycoprotein is major FML antigenic fraction and designated 'GP36'. The present study is designed to check the protective efficacy of cocktail of low molecular weight antigens. Protective efficacy of different vaccine formulations i.e. 36+51 kDa, 36+51 kDa+ALD, 36+51 kDa+saponin and 36+51kDa+liposome was revealed by significant decline in parasite burden and increased DTH responses. The antibody response was of IgG type with elevated IgG2a and decreased production of IgG1 whereas cytokine levels pointed towards the generation of protective Th1 type of immune response. Among all three vaccine formulations, cocktail of 36+51 kDa+liposome was found to be highly immunogenic and imparted maximum protection.

Biography

Harpreet Kaur is a PhD student in Department of Zoology, Panjab University, Chandigarh (India). She is awarded with UGC-MANF fellowship. She has published 4 papers in reputed journals. She has given oral/poster presentations in different national and international conferences.

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