The role of CpG ODN in enhancement of immune response and protection in BALB/c mice immunized with recombinant major surface glycoprotein of Leishmania (rgp٦٣) encapsulated in cationic liposome

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Abstract: CpG oligodeoxynucleoticles (CpG ODN) are known to be a potent immunoadjuvant for a wide range of antigens. The aim of this study was to evaluate the role of CpG ODN co-encapsulated with rgp٦٣ antigen in cationic liposomes (Lip-rgp٦٣-CpG ODN) in immune response enhancement and protection in BALB/c mice against leishmaniasis. Lip-rgp٦٣-CpG ODN prepared by using dehydration-rehydration vesicle (DRV) method significantly inhibited (P < ٠,٠٠١) Leishmania major infection in mice measured by footpad swelling compared to Lip-rgp٦٣, rgp٦٣ alone, rgp٦٣ plus CpG ODN, PBS or control liposomes. The mice immunized with Lip-rgp٦٣-CpG ODN also showed the lowest spleen parasite burden, highest IgG٢a/IgG I ratio and IFN-gamma production and the lowest IL-٤ production compared to the other groups. The results indicate that co-encapsulation of CpG ODN in liposornes improves the immunogenicity of Leishmania antigen. (c) ٢٠٠٧ Elsevier Ltd. All rights reserved.

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