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TÍTULO: IMMUNIZATION WITH CDNA FROM *LUTZOMYIA LONGIPALPIS* SALIVARY PROTEIN PROTECTS HAMSTERS FROM INFECTION BY *LEISHMANIA CHAGASI*.

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Introduction and objectives: Using a hamster model of visceral leishmaniasis (10^7 *Leishmania chagasi* parasites in the presence of *Lutzomyia longipalpis* salivary gland homogenate), we tested the ability of 16 different DNA plasmids coding for *L. longipalpis* salivary proteins to protect against visceral leishmaniasis (VL). **Material and Methods:** We evaluated presence of parasites by PCR and/or limiting dilution, cytokines by RT-PCR produced in the spleen and liver of infected animals and histopathology. **Results:** Four of these plasmids produced either antibodies, delayed type hypersensitivity response (DTH), or both responses. A plasmid coding for a 61 kDa protein induced a strong antibody responses but did not protect hamster against *L. chagasi* infection. Animals immunized with a plasmid coding for a protein of 44 kDa exhibited both DTH and antibody responses and partially protected the animals up to two months post challenge. A plasmid coding for 11 kDa protein (LJM19) induced only DTH response and was able to induce long term protection (at least eight months) with low parasite load, high IFN-gamma expression, low TGF-beta expression in the spleen and liver and high levels of serum nitric oxide. Animals from all groups, with the exception of the one immunized with LJM19, died five-six months after challenge. **Conclusion:** This study represents the first description on which a sand fly salivary product can protect against the fatal outcome of VL. These results may open new venues for controlling disease in large animals, including dogs and men, and suggest that targeting salivary proteins that induce cellular immune responses represents a rational approach to select vector-based vaccine candidates.