Alternative Strategy For the Development of a *Schistosomiasis* Vaccine

Diniz, P.P.[1], Miyasato, P.A.[2], Nakajima, E[1], Kawano, T.[2] and Martins, E.A.L.[1]

[1]Centro de Biotecnologia, [2]Laboratório de Parasitologia - Instituto Butantan, São Paulo, Brasil.

Schistosomiasis is one of the most important endemic diseases of the world with more than 200 million people infected in 76 countries. It´s estimated that around 600 million people are in risk area. In the transcriptome of *Schistosoma mansoni,* a family of 18 dyneins light chain (DLC) homologs to the mammalian dynein was identified. Two members of this paralogous family were previously described in the *S. japonicum*, indicating the presence of the two DLCs in the tegument of adult worm by immunomicroscopy. Considering that these proteins are exposed to the host immune system, we decided to investigate their potential as vaccine. Attenuated salmonella strains are being used as live recombinant vaccine carrying heterologous genes. Many studies are shown that salmonella can drive the immune response to cellular type, what is desirable for protection against parasites. To evaluate the antigenicity and immunoprotective capacity of three DLCs from *S.mansoni* by presenting the antigens to mice immune system as purified proteins or carried by a recombinant salmonella vaccine strain we cloned the genes in the expression vector pAEsox. The proteins were induced to expression by paraquat and purified by metal-chelating affinity chromatography. The same genetic constructions were cloned for *in vivo* expression in attenuated salmonella strain S3261. The groups were tested in immunization and challenge assays. Our results showed a decrease in the parasite burden and an important effect in the hepatic pathology, with significant decrease in the hepatic granulomas.

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