Preliminary Structural Characterization of the Protein Coded by Micro-Exon Gene 5 (MEG-5) of *Schistosoma mansoni*

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Schistosoma mansoni is a blood fluke and one of the causative agents of Schistosomiasis, that affects 230 million people in 77 countries. It is believed that infection persists due to modulation of the host immune system through proteins secreted by the parasite. Recently a class of secreted proteins, which are derived from micro-exon genes (MEGs), was observed in proteomic assays of secretions of *S. mansoni* schistosomula and egg and associated with glands of several stages of the parasite. Moreover, it was found that these proteins have no homology with proteins of known function in other organisms. The structural characterization of the MEG-5 protein was produced by heterologous system and was performed techniques of Circular Dichroism (CD) and intrinsic fluorescence. Initially we performed the standardization of the MEG-5 heterologous expression and produced the protein in sufficient quantity and quality. CD experiments showed he presence of a negative peak in the ranges 180-200nm and the presence of lower intensity peaks in the range 220-240nm, indicating that the proteins is mostly unstructured, but may present a structured portion .Secondary structure predictions using the SOPMA and Jpred3 programs, indicated the presence of an alpha-helix at the C-terminal, which may represent the structured portion observed in the CD spectra. To provide further support for the existence of the alpha-helix, we performed an intrinsic fluorescence analysis of the protein probing the single tryptophan present in the protein, which is located in the predicted alpha-helix region. We verified that the fluorescence emission maximum is at 330mm, indicating that this tryptophan is located at an hydrophobic environment, thus suggesting that it is located at a structured region. The fact that MEG-5 putative C-terminal helix is amphipathic suggests that it may interact with lipid bilayers at the surface of hosts cells.

Key words: *Schistosoma mansoni*, protein and *micro-exon*
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