CHARACTERIZATION OF PI31 A ENDOGENOUS INHIBITOR OF *SCHISTOSOMA MANSONI* PROTEASOME

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Schistosoma mansoni is causative agent of schistosomiasis, a disease affecting 200 million people in tropical and subtropical areas of the world. Proteasome is an ATP-dependent protease that plays a central role on the control of protein stability in eukaryotic cells. However, is well known that activators like PA200 e PA700 modulate proteasome activity, endogenous inhibitors such as PI31 also inhibit the catalytic core of proteasome. Based on searches through FAPESP databank we designed primers to amplify PI31 transcript by RT-PCR during the life cycle of the parasite. Preliminary results have shown high levels of expression in adult worms and a minor level in schistosomulae. In addition the gene coding for PI31 was amplified, and cloned in the vector pET28a system for heterologous expression. Resulting protein was purified by affinity chromatography from culture *E. coli* supernatant. Furthermore mass spectroscopy approach and N-terminal sequencing has confirmed the correct posttranslational processing of the secreted recombinant protein. Finally antibodies against PI31, was produced in rabbits and western blot has shown a 35 KDa protein. Taken together our results suggest that PI31 has a differential expression through life cycle and may play a role in proteasome modulation during the development of the parasite.

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