

Molecular Analysis of Vaults Components Expression During the Life Cycle  
of *Shistosoma mansoni*.

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Vaults are barrel-shaped cytoplasmic ribonucleoprotein particles composed of three proteins: the major vault protein (MVP), the vault poly(ADP-ribose)polymerase (VPARP), and the telomerase-associated protein 1 (TEP-1), together with one or more small untranslated RNAs. In this work we used bioinformatic approaches to identify in the parasitic trematode *Schistosoma mansoni* sequences that are similar to proteins involved in the assembly of vaults. We used conserved amino acid domain PF01505-Smp\_006740, PF08487-Smp\_073130.1 and Sm10246 against *S. mansoni* genome and transcriptome databases to identify SmMVP, SmVPARP and SmTEP-1 in the parasite. Alignment of the predicted ORFs with the homologous sequences revealed an identity over 90% between SmMVP, *S. japonicum*, mouse, human and rat, and a considerable degree of identity between SmVPARP and SmTEP-1 from lower eukaryotes. We also found that the genomic structure of the SmMVP and SmVPARP consisting of 8 and 10 exons respectively. In addition, the transcript levels of these genes were analyzed by RT-schistosomula PCR using cercariae, adult worms, eggs and in vitro cultivated schistosomula with 0, 24, 48 and 72 hours and  $\alpha$ -tubulin as normalizer. Our results showed similar levels of expression for all vaults components between larvae and adult worms, suggests a similar mechanism of regulation of transcription of vaults components during the life cycle of *S. mansoni*. The key question that remains to be addressed in future studies is biochemical roles of vaults in the cellular biology of *S. mansoni*.