Characterisation of a novel *Schistosoma mansoni* cercariae/schistosomula secreted protein (SmCSS-1) exhibiting developmentally regulated alternative splicing

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The characterisation of parasite products secreted/excreted during the initial infection of *Schistosoma mansoni* is important for fully understanding the intricacies of long-term host/parasite interactions. To this end, we investigate a novel *S. mansoni* protein of unknown function, SmCSS-1, recently found in cercarial/schistosomula exosome-like extracellular vesicles. Utilising existing DNA microarray and RNAseq data, we find that SmCSS-1 is differentially expressed across the schistosome lifecycle with peak expression in mixed-sex cercariae larvae and male biased expression in the dioecious adult. Sequencing analysis of SmCSS-1 transcripts cloned from different parasite lifestages reveal multiple isoforms that differ in abundance. Comparative sequence analysis has revealed homologues in other schistosome species (*S. haematobium, S. japonicum and S. magrebowei*). No homologues were present in other related trematode genomes or transcriptomes analysed. Recombinant protein expression of CSS-1 has been successful in *E. coli*, enabling future research into the location of SmCSS-1 within the parasite, immune responses elicited by this protein and the role of different isoforms during parasite development. Collectively, these results point to SmCSS-1 being an abundant new class of schistosome secreted protein.