

## Vaccination with enzymatically cleaved GPI-anchored proteins from *Schistosoma mansoni* induces protection against challenge infection

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The flatworm *Schistosoma mansoni* is a blood fluke parasite that causes schistosomiasis, a debilitating disease that occurs throughout the developing world. Current schistosomiasis control strategies are mainly based on chemotherapy, but many researchers believe that the best long-term strategy to control schistosomiasis is through immunization with an antischistosomiasis vaccine combined with drug treatment. In the search for potential vaccine candidates, numerous tegument antigens have been assessed. As the major interface between parasite and mammalian host, the tegument plays crucial roles in the establishment and further course of schistosomiasis. Herein, we evaluated the potential of a GPI fraction, containing representative molecules located on the outer surface of adult worms, as vaccine candidate. Immunization of mice with GPI-anchored proteins induced a mixed Th1/Th2 type of immune response with production of IFN- $\gamma$  and TNF- $\alpha$ , and low levels of IL-5 into the supernatant of splenocyte cultures. The protection engendered by this vaccination protocol was confirmed by 42% reduction in worm burden, 45% reduction in eggs per gram of hepatic tissue, 29% reduction in the number of granulomas per area, and 53% reduction in the granuloma fibrosis. Taken together, the data herein support the potential of surface-exposed GPI-anchored antigens from the *S. mansoni* tegument as vaccine candidate.

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