A promising new chimeric protein for the recognition of *Schistosoma mansoni* infection

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The trematode *Schistosoma mansoni* is the etiological agent of mansonic schistosomiasis, one of the most globally relevant neglected tropical diseases due to the high prevalence of its severe forms and the significant number of associated deaths. The diagnostic method currently recommended by the World Health Organization is the Kato-Katz parasitological technique, which performs well in areas with high infection intensity. However, in regions with low parasitic load, its sensitivity decreases significantly, making case detection more challenging, underestimating the true disease prevalence, and compromising epidemiological control strategies. In this context, the present study aimed to evaluate the efficacy of a chimeric protein named QSmP, derived from 17 peptides of the *S. mansoni* proteome, for infection detection using the ELISA method. Serum samples from 88 infected individuals from the endemic area of Januária/MG and the metropolitan region of Recife/PE were analyzed (67 with low intensity, 13 with moderate intensity, and 8 with high intensity), along with 12 serum samples from uninfected individuals from a non-endemic area. Among the 88 analyzed serum samples, 45% were reactive to the QSmP protein (29 with low intensity, 8 with moderate intensity, and 3 with high intensity). Notably, none of the negative serum samples showed reactivity. These findings suggest that the use of chimeric proteins derived from the *S. mansoni* genome represents a promising strategy to improve case identification, particularly in areas with low infection intensity, contributing to enhanced diagnosis and epidemiological monitoring of schistosomiasis.

Key words: *Schistosoma mansoni*; Serological diagnostics; Chimeric protein.

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