Trypanosoma evansi: Paraflagellar rod protein 1 and 2 are similar but lack common B cell epitopes.

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Abstract

In an attempt to identify invariant proteins with vaccine potential against African trypanosomes, we investigated the existence of PFR1 protein in Trypanosoma evansi and compared its B cell epitope with that of PFR2 protein of T. evansi using Western blotting and immuno-precipitation assays. The PFR1 gene of T. evansi was amplified by RT-PCR using primers designed based on the open reading frame of PFR1 gene of Trypanosoma brucei. The cloned PFR1 gene of T.evansi was similar to PFR1 genes of T. brucei and Trypanosoma cruzi. The expressed protein from the PFR1 gene was 68.4% homologous to the PFR2 protein of T. evansi, and showed 99.8%, 87%, 77.9% and 77.5% homologous to the PFR1 protein of T. brucei, T. cruzi, Leishmania mexicana and Leishmania major, respectively. Western blot and immuno-precipitation assays showed that antibodies raised against PFR1 and 2 proteins in BALB/c mice recognized the PFR1 and 2 proteins, respectively, with no cross-reactivity. Immuno-agglutination assay showed trypanolytic properties of the anti-PFR1, anti-PFR2 and anti-native PFR sera. These results suggest that PFR1 and PFR2 proteins are components of native PFR antigen and do not share common B cell epitopes.