INHIBITION OF PROLINE RACEMASE AFFECTS VERO CELL INVASION BY *Trypanosoma cruzi*

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The kinetoplastid protozoan parasite *Trypanosoma cruzi* is the causal agent of Chagas' disease, a serious public health problem in Latin America. An isoform of the parasite proline racemase enzyme (*Tc*PRAC) was described as an effective host B-cell mitogen, contributing to parasite evasion from specific immune responses. *Tc*PRAC is encoded by at least two paralogous genes per parasite haploid genome, *TcPRACA* and *TcPRACB*, giving rise to secreted and intracellular protein isoforms. We evaluated parasite infectivity following *in vitro* treatment of cell cultures treated with specific anti-*Tc*PRAC polyclonal antibodies or with pyrrole-2-carboxylic acid (PCA), a specific inhibitor of PRAC. Blood trypomastigotes were used to infect Vero cells at 10:1 cell ratio and infectivity was evaluated after 24h. Significant dose dependent decreases in intracellular parasite numbers and in percentage of infected host cells per culture were observed using either anti-*Tc*PRAC or PCA. These results substantiate previous observations and put forward a *Tc*PRAC role in parasite invasion. Furthermore, our data strengthen *Tc*PRAC as a potential target for drug design and immune-modulation.

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