INFESTIN1R, A PROTEASE INHIBITOR FROM *Triatoma infestans* MIDGUT, AND ITS RELATIONSHIP WITH THE PARASITE *Trypanosoma cruzi*

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Infestins are Kazal-type serine protease inhibitors found in the midgut of the *Triatoma infestans*. They act blocking the blood coagulation excepting infestin1R which is a chymotrypsin inhibitor. Previously, we demonstrated that recombinant infestin1R (rINF1R) was able to completely impair *T. cruzi* invasion of culture cells with 10μM concentration and it interacts with *T. cruzi* binding to trypomastigotes forms. Our previous results suggested that rINF1R acts by inhibiting parasite proteases. Using a rINF1R–Sepharose column, proteolytic activities were purified from trypomastigotes and epimastigotes crude extracts. These enzymes were totally inhibited by E64 but not by APMSF using the fluorogenic substrate e-NH_2(Cap)Leu-S(Bzl)Cys-MCA. Purified enzymes of epimastigotes were applied in a SDS-PAGE containing gelatin and two digestion bands were detected around 35 kDa and 70 kDa. These results indicated that rINF1R may interact with *T. cruzi* cysteine proteases playing an important role in the inhibition mechanism of parasite cell invasion. *T. infestans* were artificially fed with human blood containing trypomastigotes extracts and the transcription profile of infestin precursor was analyzed. Insects fed with parasites extract showed an increased level of infestins expression after 12h of approximately three folds. Our present results support the suggestion that infestins could play a role in the interaction of *T. cruzi* and its vector. *Supported by FAPESP and CNPq.*