Tracking and Immunohistochemical localization quote proteins involved in adhesion of Trypanosoma cruzi in the gut epithelium of Rhodnius prolixus.

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In the life cycle of Trypanosoma cruzi, the adhesion of the epimastigotes to perimicrovilllar membrane (PMM) in the posterior midgut of Rhodnius prolixus has been suggested as important step for the division of the parasite. In fact, an antiserum raised in rabbits against R. Prolixus PMM reduces the development of the parasite in the vector. Overall goal would be to isolate membrane proteins from R. Prolixus PMM involved in adhesion of T. cruzi epimastigotes to midgut epithelium to further characterize them from the molecular point of view. Insects in the fifth stage, five days after being fed with defibrinated rabbit blood were dissected. The midgut was separated, homogenized and centrifugated twice. The precipitates were resuspended and the determination of protein in each sample was done with Coomassie Blue G. Subsequently, we measured the activity of the enzymes α-glucosidase (perimicrovilllar membrane marker), β-glucosidase and aminopeptidase (microvillus membrane marker). Our results demonstrate the enrichment of three enzymes in a fraction enriched in microvillar membranes and perimicrovilllar R. prolixus. As a preliminary step of mapping and location of molecules in the digestive tract of vectors of Chagas disease related to the development of T. cruzi, our initial results indicate a effective method for protein isolation from different layers of microvillar and perimicrovilllar membranes of R. prolixus.

Word Keys: Trypanosoma cruzi; Rhodnius prolixus; peritrofic and perimicrovilllar membranes
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