FURTHER STUDIES ON ACYL-COA-BINDING PROTEIN GENE EXPRESSION IN THE MIDGUT OF *RHODNIUS PROLIXUS*

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The acyl-CoA-binding protein (ACBP), a highly conserved 10 kDa intracellular protein, binds straight-chain long acyl-CoA esters with very high affinity, and protects acyl-CoA esters from hydrolysis. Acyl-CoA-binding protein (ACBP) transcript has been sequenced from a *Rhodnius prolixus* midgut cDNA library. Prediction of three-dimensional structure of this protein using CPHmodels 2.0 showed that it presents four helices in up-down-down-up conformation, as already described for others ACBPs. ACBP gene expression was detected in anterior and posterior midgut, fat body, ovary, flight muscle and salivary glands, and it was highest (~5 fold) in posterior midgut. Expression analysis of ACBP gene in the midgut showed a great increase after blood meal, and it was very high (~7-fold increase) on first day after feeding, decreasing after it. Insects fed only with Tyrode buffer also showed an increase in the expression of this gene (~3-fold). Injection of hemolymph collected from fed insects into unfed ones caused a little but not significant increase in ACBP gene expression. Injection of 2 ng of 20-hydroxyecdysone into unfed females inhibited the expression of this gene in approximately 30%. In this study, the control of ACBP gene expression in *Rhodnius prolixus* midgut, in association with intracellular lipid transport, will be investigated. Supported by CNPq, PIBIC/UFRJ and Faperj