

EXPRESSION PROFILE OF ACYL-COA-BINDING PROTEIN IN THE MIDGUT OF *RHODNIUS PROLIXUS*

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Acyl-CoA esters have many functions in cell metabolism, such as energy production and cell signaling. Acyl-CoA-binding protein (ACBP), a highly conserved 10 kDa intracellular protein, binds long straight-chain acyl-CoA esters with very high affinity and protects acyl-CoA esters from hydrolysis. Using RT-PCR, ACBP gene expression was detected in anterior and posterior midgut, fat body, ovary, flight muscle and salivary glands of *Rhodnius prolixus*, and it was highest (~5-fold) in posterior midgut. Expression analysis of ACBP gene in the midgut by Real-Time PCR showed a great increase after blood meal, and it was very high (~7-fold increase) on first day after feeding and then decreased. Injection of 2 ng of 20-hydroxyecdysone into unfed females inhibited the expression of this gene in approximately 30% in the midgut of *R. prolixus*. When these females were subjected to blood meal after injection, different concentrations of 20-hydroxyecdysone were not effective in decreasing ACBP gene expression significantly. Injection of 2 pmol of 5-hydroxytryptamine (serotonin) induced an increase of approximately 7-fold in ACBP expression. These results suggest that these hormones may be involved in the control of ACBP expression, and this is under investigation. Supported by CNPq, PIBIC/UFRJ, Faperj e CAPES.