

EFFECTS OF RETINOIDS AND JUVENOIDS ON *RHODNIUS PROLIXUS*: POSSIBLE INVOLVEMENT OF THE ULTRASPIRACLE GENE PRODUCT

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Many diseases in the world are transmitted by hematophagous insects and one of the main strategies to reduce their spreading is the control of vector population. Juvenile hormone (JH) analogs are being used as insecticides based on the central role of JH in regulating physiological events mediated by the nuclear receptor ultraspiracle (USP). Here we aimed to investigate the effects of retinoids and juvenoids on *Rhodnius prolixus*. Injection of these compounds in adults prevented the induction of hemolymphatic phenoloxidase activity after bacterial challenge. We obtained a partial clone of RpUSP containing two important domains: the DNA-binding domain and the ligand binding domain. Moreover, real-time PCR experiments revealed that RpUSP expression in fat bodies increased about 8 fold seven days after blood meal. Injection of retinoids or juvenoids in adult females also increased RpUSP expression in fat bodies. Attempts to investigate the biological function of RpUSP by RNA interference are currently in progress. A dsRNA of USP was synthesized and will be administered by injection and feeding. Thus, the results presented here indicate that an authentic USP is coded in *R. prolixus* and possibly some of the physiological effects promoted by retinoids and juvenoids treatment may depend on RpUSP activity upon ligand binding. Financial support: CNPq, FUJB, Faperj, TWAS.