

PARTIAL CHARACTERIZATION OF ABC TRANSPORTER PROTEINS IN *A. AEGYPTI* AND POSSIBLE RELATIONSHIP TO TEMEPHOS INSECTICIDE RESISTANCE

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ATP binding cassette transporter proteins are involved in different processes like substrate transport, protection of organisms against xenobiotics, and multidrug resistance phenotype. The understanding of the mechanism of insecticide resistance is improving the control of insect population and consequently hampering diseases transmitted by vectors. In this work, we partially characterized a human homologue of P-glycoprotein in the mosquito *A. aegypti*, Rock strain (sensitive to insecticide) using western blotting technique with JSB1 antibody and measuring ATPase and UTPase enzymatic activities in groups of mosquitos treated with temephos insecticide or not. The P-glycoprotein was found in extracts obtained from the pupal and adult stages in both groups. ATPase and UTPase enzymatic activities were also detected in these samples and in different organs from females, including head, ovaries, Malpighian tubules, and gut. However, only in the group of temephos-treated entire females and ovary samples showed significant increase in enzymatic activities when compared to control. Immunolocalization assay showed that P-glycoprotein is present in the follicular epithelium. Enzymatic activities of eggs embryonated from field colonies were significantly larger when compared to eggs from the sensitive strain. This data suggest that ABC transporters are being possibly related to important biochemical processes in this insect and its resistance phenotype.

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