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**EFFECTS OF 6-AMINONICOTINAMIDE ON LEVELS OF SOLUBLE  
PROTEINS AND ACETYLCHOLINESTERASE ACTIVITIES  
IN VARIOUS TISSUES OF GOLDEN HAMSTER**

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**Effects of an antimetabolite 6-aminonicotinamide (6-AN) on levels of soluble proteins and activities of acetylcholinesterase (AChE) in hamster tissues were investigated. The levels of soluble proteins were significantly decreased in the testis and the kidney, whereas in the cerebrum, cerebellum, brain stem, spinal cord, liver, skeletal muscle, intestine and spleen, the levels were not changed. Acetylcholinesterase activities were significantly increased in the intestine, but decreased in the spleen. Also there were no changes of acetylcholinesterase activities in the cerebrum, cerebellum, brain stem, spinal cord, liver, skeletal muscle, testis and kidney. SDS-PAGE showed that the polypeptides in intestine corresponding to molecular weights of 177 KDa, 97KDa, 77.5 KDa, 72 KDa, 50 KDa, 42.5 KDa, 38 KDa, 16.6 KDa were elevated, but those of 122 KDa was decreased.**

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**Purification and identification of the properties of  
prothoracicotropic hormone from *Drosophila melanogaster*.**

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Prothoracicotropic hormone (PTTH) was isolated from  $4 \times 10^5$  whole body larva. The molecular weight of purified PTTH was 45 kDa. N-terminal amino acid sequence analysis indicated that PTTH sequence had no significant homology with known peptides or proteinous hormones including PTTH from other insect species.

On the basis of Western blot analysis data, the native form of *Drosophila* PTTH appears to be a single polypeptide with a molecular weight of 66 kDa. The native PTTH has N-linked carbohydrate chains and purified 45 kDa was deglycosylated form modified by endogenous glycosidase during preparation of PTTH extract.

The native 66 kDa PTTH has intrachain disulfide bonds. There exists heterogeneity of purified 45 kDa PTTH resulting from partial deletion in the carbohydrate chain at N-terminus that may yield different shapes and multiple apparent molecular weights.

The burst of PTTH synthesis and accumulation started at third instar larva stage. In addition, the interspecific interaction of PTTH in two insect systems, Dipteran and Lepidopteran, was examined. PTTH of two insect orders may not share similarities in structure in spite of the same function.

Whole-mount immunohistochemistry data showed that PTTH was abundantly localized in the proximal region of ring gland.