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Characterization of Epidermis-origin Hemolymph Protein of *Galleria mellonella* L.

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Epidermis-origin hemolymph protein(EDHP) of *Galleria mellonella* L. was identified and purified from last instar larvae. Purified protein from hemolymph was reconfirmed as epidermis origin protein by western blot and two-dimensional electrophoresis of integument culture medium with purified protein and by its autoradiography. It was present in fat body, integument and trachea, but absent in Malphigian tubule, silk gland, ventral nerve cord, salivary gland, ovary and testis. The presence of EDHP in larval and pupal hemolymph, fat body and integument was investigated by western blot, but according to the autoradiography of cultured integument and fat body, only integument could synthesize the EDHP. Especially, fifth and sixth instar larval integument synthesized EDHP actively. N-terminal sequence and amino acid composition were investigated. By the inhibition zone assay, it was confirmed that EDHP does not have antibacterial activity. These results suggest that EDHP is cuticle protein which is synthesized by only epidermis and secreted to hemolymph and uptaken by integument. We consider EDHP as a kind of cuticle proteins.

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The site of Biosynthesis and the uptake of apolipoprotein-III in the testis and ovary of *Spodoptera litura*

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Apolipoprotein-III(apoLp-III) was purified from last instar larval hemolymph of *S. litura*, identified the site of biosynthesis, relationship with apoLp-III of other insects, and presence in ovary, testis and other tissues using immunoblotting and immunogold electron microscopy. Compared with last instar larval fat body, apoLp-III is actively synthesized in adult fat body and released to the hemolymph, and also, some amount of it is stored in the protein bodies of fat body. In ovary, apoLp-III is transported through the intercellular space between follicle cells into the oocyte and stored in the protein body. In the case of testis, apoLp-III is uptaken to the vas deferens and accumulated into the proteinaceous body at the free surface of vas deferens-epithelial cells.