

F105 Molecular cloning of cDNA encoding lipophorin receptor from fat body and ovary of mosquito

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Lipophorins are synthesized and secreted by donor cells and subsequently transported to acceptor cells, where the lipid components can be discharged. It has been proposed that lipophorin docks via a receptor or binding site at the fat body, thereby facilitating lipid delivery.

We report here the identification and cloning of a cDNA encoding the mosquito lipophorin receptor(LpR). The cDNA from fat body and ovary have a length of 2,673bp coding for 891 residue protein and 3,468bp coding for a 1,156 residue protein, respectively. The only difference of LpR cDNA between fat body and ovary is the length of O-linked sugar domain and the number of repeat in ligand binding domain.

Northern blot analysis revealed a mRNA of approximately 5.8 kb which expression in fat body is highly restricted only at late stage of vitellogenesis, while ovary LpR gene is highly expressed at the previtellogenic and early stage of vitellogenesis, and shows 4.5 kb transcript.

F106 Comparative analysis of storage protein genes of fall webworm, *Hyphantria cunea*

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Two kinds of storage protein, SP-1 and SP-2, are found in the hemolymph and fat body of *Hyphantria cunea*. The cDNA for SP-1 (2,337 bp) and SP-2 (2,572 bp) code for 774 and 748 residue proteins showing molecular mass of 90.8 kDa and 88.5 kDa, respectively. The calculated isoelectric points are pI=8.8 and 7.6 for both storage proteins.

SP-1 and SP-2 belong to methionine-rich storage protein (SP-1, 6.0%; SP-2, 6.8%) and share 46% sequence identity each other. SP-1 is more closely related to basic juvenile hormone suppressible protein 1 (BJHSP1, 66%), while SP-2 is more closely related to basic juvenile hormone suppressible protein 2 (BJHSP2, 75%).

A Northern blot of both mRNAs reveal no big differences from different developmental stages, but a little differences between sex. In female, both mRNA in fat body appears in middle last instar larvae, accumulate to a maximal level at the end of last instar larvae, and persist up to 10-day-old pupae. In male, both mRNA exhibit maximal level at the prepupal stage and sharply decline after early pupal stage.