D109

Localization of LK-I-Immunoreactive Neurons in Postembryonic Ventral Ganglia of Moth, *Spodoptera litura*

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The postembryonic ventral ganglia of *Spodoptera litura* has been investigated to find out the morphological and numerical changes of leucokinin-I-Immunoreactive(LK-I-IR) neurons. The ventral ganglia of 1st instar larva possess 1 pair of LK-I-IR neurons in the 1st thoracic ganglion, 1 pair in 3rd thoracic ganglion, each 2 pairs in 4th, 5th and 6th abdominal ganglia, and 1 pair in terminal ganglion. In 2nd and 3rd instar larvae, the number of LK-I-IR neurons is similar to that in the 1st instar larva. However, the localizations of the LK-I-IR neurons is very similar to each other from the 4th instar larva to the prepupa. In spite of the metamorphosis from the prepupa to the adult, the number and distribution of the LK-I-IR neurons do not relatively change. The LK-I-IR nerve processes in ventral ganglia of all the stage are mostly extrinsic mainly to the ventral ganglia, but a few intrinsic nerve fibers are also found.

D110

Progesterone inhibits Pit-1 and Prolactin Gene Expression but Activates Promoter activity of c-H-Ras protooncogene in the GH_3 cell

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The present study examined the effect of estrogen and progesterone on the prolactin and Pit-1 gene expression and ras promoter activity in the GH_3 cell. GH_3 cells were incubated with 17β-estradiol (E) or vehicle (V). Two days later, progesterone (P) was supplemented to the culture medium (serum and phenol red free DMEM). Four experimental groups were examined: V + V, V + P, E + V and E + P. The results showed that E increased mRNA levels of prolactin and Pit-1, while P suppressed the E-induced increase of prolactin and Pit-1 mRNA level. To investigate the effect of E and P on the ras promoter activation, the c-H-ras promoter conjugated with β-galactosidase coding region was transfected into GH_3 cells, and the promoter activity was detected by ELISA for β-galactosidase. Administration of E or P alone did not effectively change the ras promoter activity, but addition of P to the E-priming condition significantly enhanced ras promoter activity. These data indicate that P inhibits gene expression of Pit-1 and prolactin but activates ras promoter activity under an E-primed condition, respectively. Therefore, Pit-1 seemed to be involved in the regulation of prolactin synthesis by P, while the signaling pathway of ras might be not directly related to the regulation of prolactin synthesis by P. (HRC-95-0104)