

# Local Expression and Distribution of Storage Protein in the Ovary of *Hyphantria cunea*

전향미, 황수정, 김홍자, 김명옥, 서숙재

경상대학교 자연대 생명과학부

Storage protein-1 (SP-1) is a major storage protein found in the hemolymph and fat body of *Hyphantria cunea*. SP-1 in *H. cunea* has a high methionine (6%) and low aromatic amino acid content (8.5%) (Cheon *et al.*, 1998). LHP synthesis in lepidopterans occurs primary but not exclusively in larval fat body cells (Kanost *et al.*, 1990). Although several tissues are presented as candidates for alternate expression sites of storage protein, expression of SP-1 in the ovary has not yet been elucidated. The present study aims to determine whether the SP-1 gene is locally expressed in the ovary using RT-PCR, Northern blot, and *in situ* hybridization.

SP-1 mRNA accumulated in the nurse cells and follicular epithelial cells, but not on the oocyte of *H. cunea* ovary. The mRNA disappeared from the follicle during post-vitellogenic stage. Most incorporated SP-1 in the yolk body of oocyte might be from surrounding hemolymph. The intensity of hybridization signal in ovary is significantly weak. The SP-1 transcript in the ovary might have accessory roles, compared to the bulk of hemolymphatic SP-1, but it might constitute organ-specific storage system that allows insect to keep its reproduction activity under nutritional stress.