

**Accumulation of Hyphantrin during Brain Development and Injury in  
*Hyphantria cunea***

**Hyun Jeong Je<sup>1</sup>, Hong Ja Kim<sup>1</sup>, Chi Young Yun<sup>2</sup>, In Hee Lee<sup>3</sup>, Yeon Su Han<sup>4</sup> and Sook Jae Seo<sup>1</sup>**

<sup>1</sup>*Division of Life Science, Gyeongsang National University, Jinju;* <sup>2</sup>*Department of Biology, Daejeon University, Daejeon;* <sup>3</sup>*Department of Life Science, Hoseo University, Asan;*  
<sup>4</sup>*Department of Agricultural Biology, Chonnam National University, Gwangju*

The cDNA corresponding to a novel lipocalin was identified from fall webworm, *Hyphantria cunea*. The cDNA was designated Hyphantrin for brain-accumulated lipocalin like Bombyrin and Gallerin. The Hyphantrin cDNA encodes 194 residues protein with a calculated molecular mass of 23 kDa. Sequence analyses revealed that the Hyphantrin cDNA is most similar to *Drosophila lazarillo*, human apolipoprotein D, *E. coli* lipocalin, and Bombyrin. Northern blot analyses showed that Hyphantrin transcript expressed in the whole body only at 4- and 6-day-old pupae. By Western blot, it was confirmed that Hyphantrin is mainly accumulated in brain and subesophageal ganglion, though it is detected in a small amount in fat body and epidermis of *Hyphantria cunea*. The accumulation of Hyphantrin in brain was in proportion to brain development and upregulated in response to injury. The putative function of Hyphantrin in brain is discussed.