

Molecular Cloning of cDNAs Encoding 26kDa Subunit of Secreted Ferritin from *Hyphantria cunea* Drury

Hyang-Mi Cheon¹, Boah Chae¹, Hong-Ja Kim¹, Chi-Young Yun², and Sook-Jae Seo¹

¹*Division of life science, College of Natural Science, Gyeongsang National University, Jinju 660-701, Korea and* ²*Department of Biology, Daejeon University, Korea*

Lepidopteran hemolymph ferritin is composed of several subunits. Hemolymph ferritin of *H. cunea* is found to have M.W of 660kDa, three subunit of 26, 30, and 32kDa. We have isolated and sequenced the cDNA for 26kDa subunit (HcFER26).

The cDNA has a length of 1293 bp coding for a 221 residue protein with a predicted molecular mass of 25 kDa. The HcFER26 cDNA contains a highly conserved putative iron responsive element (IRE) in a cap-distal location of their 5'UTR. Cysteine residues in the N-terminus to which fatty acids can be linked and the seven residues in active ferroxidase center are conserved. The HcFER26 cDNA has high homology with those of *G. mellonella* 26kDa subunit (68.7%), *M. sexta* S subunit (68.7%), and *C. ethlius* S subunit (59.3%). The phylogenetic analysis shows that the sequences of insect ferritin subunit are divided into two group, S (small) and G (giga) types. The HcFER26 subunit belongs to S type homologous to the vertebrate heavy chains.