

3-3-17. Isolation of a Gene for Apolipoprotein III and Its New Function in *Hyphantria cunea* Drury

Hong-Ja Kim¹, Boah Chae¹, Hyang-Mi Cheon¹, Byung-Rae Jin², In-Hee Lee³,
Chi-Young Yun⁴ and Sook-Jae Seo¹

¹Division of life science, College of Natural Sciences, Gyeongsang National University; ²College of Natural Resources and Life Science, Dong-A University; ³Department of Life Science, Hoseo University; ⁴Department of Biology, Daejeon University

We isolated and sequenced a cDNA clone corresponding to apolipoprotein III (apoLp-III) from the fall webworm, *Hyphantria cunea* Drury. The cDNA for apoLp-III (561-bp) codes for a 187-residue protein with a predicted molecular mass of 20 kDa. Northern blot analysis showed the presence of apoLp-III transcript in the fat body, gonad, and hemocyte.

To investigate the immune-stimulating capacity of apoLp-III, apoLp-III was introduced into baculovirus expression system and expressed in insect cells. Injection of 20 µg of recombinant apoLp-III into last instar larvae stimulated the induction of lysozyme and hyphancin D gene. The apoLp-III was localized in hemocyte as well as hemolymph, and apoLp-III in hemocyte was released into hemolymph in response to bacterial injection. The expression and localization of apoLp-III in hemocyte might be related to immune activation.