B17

Isolation of Down/Up Regulated Genes by Apolipophorin-Ⅲ ds RNA using Differential Display-PCR in *Hyphantria cunea*

Hong-Ja Kim[1], Yong-Min Kwon[1], Kyoung-Mi Jung[1], Yeon-Su Han[2], In-Hee Lee[3], Young-Jin Kang[4], Byung-Rae Jin[5], Sook-Jae Seo[1]

[1]Division of Applied Life Science, Gyeongsang National University, Jinju; [2]Department of Agricultural Biology, Chonnam National University, Gwangju; [3]Department of Life Science, Hoseo University, Asan; [4]Department of Pharmacology, Yeungnam University, Daegu; [5]College of Natural Resources and Life Science, Dong-A University, Busan, Korea

Apolipophorin-Ⅲ (apoLp-Ⅲ) is an abundant apolipoprotein found in the hemolymph of Lepidoptera and Orthopteran insects. ApoLp-Ⅲ plays a key role in lipid transport of insects that rely heavily on lipids to fuel their flight activity. Recently, the protein apoLp-Ⅲ has been identified as an immune-stimulating molecule. Previous analysis have shown that the injection of apoLp-Ⅲ into the hemocoel of larvae induces a strong increase in antibacterial activity in *Hyphantria cunea*. The protein is believed to cause hemagglutination and to act synergistically with insect hemolymph lysozyme.

RNA interference (RNAi) has become a powerful tool to determine gene function. We have compared the transcriptional activity of apoLp-Ⅲ in the hemocyte, midgut, fat body after injection of apoLp-Ⅲ ds RNA into larvae by means of RT-PCR. Many transcripts preferentially expressed or repressed in three organs have been selected by differential display PCR (DD-PCR). Among several transcripts that have been identified, we have selected and further characterized these transcripts.