F823

Transcriptional Regulation of the Cell Proliferation-Related Genes by 20-OH Ecdysone and Ursolic acid in *Drosophila*

Thae Yeong Choi*, Eun Jeong Kwon, Sang Hoon Rhee, Mi Ae Yoo
Department of Molecular Biology, Pusan National University

We previously found transcriptional inhibition of the proliferating cell nuclear antigen(PCNA) and *D-raf*(*Drosophila* homolog of the human *c-raf-1* gene) genes by ursolic acid in *Drosophila* Kc cells. In this study, we also confirmed the fact in vivo by using transgenic flies. To know the mechanism of repression of PCNA and *D-raf* promoter activities by ursolic acid, we examined the effect of 20-OH ecdysone similar to the structure of ursolic acid on expression of these genes. 20-OH Ecdysone also inhibit expression of the PCNA and *D-raf* genes. The inhibition effect of 20-OH ecdysone on expression of these genes was not shown at the tested concentration higher than 1 μM in both *Drosophila* Kc cells and transgenic flies, while ursolic acid showed the dose dependent inhibition effect.

F824

Tissue-Specific and Dietary Control of Alpha-Amylase Gene Expression in *Drosophila melanogaster*

Jong Kil Choo, Chi Hyun Ahn*
Department of Biology, College of Natural Science, Chungang University

Amylase variants of *Drosophila melanogaster* were screened for spatial variation in adult and larva midgut α-amylase(EC 3-2-1-1, 1,4-α-glucan glucanohydrolase; *Amy*). Enzyme activity was detected by DNSA method during several generations in each food component for dietary control. Every strain revealed a different activity in each restricted medium, indicating that each strains have different adaptation ability to carbon source. In this study, standard medium contained starch-like cornmeal gives less dietary stress to fly than two other carbon sources. The relationship of *Amy* genotype and midgut amylase-activity pattern(*Map*) analysis was shown expression of *Map*P indicated highly enzyme activity at posterior parts of region than that at anterior. In electrophoretic analysis, it revealed Amy^{1} and $Amy^{1\cdot3}$ was $MapA^{123}P^{00}$, $Amy^{4\cdot6}$ was $MapA^{123}P^{12}$. This suggests that somehow *Amy* genes, or their products, are differentially recognized by products of the *Map* gene in addition to being differentially recognized in different parts of the midgut.