

Z505 Are Glycoconjugates Important for the Interaction of TNF α - TNFR1?

Yeon Joo Hong* and Jin Won Cho
Department of Biology, Yonsei University

The association of Tumor-necrosis factor receptor 1(TNFR1) by TNF α initiates apoptosis and activates the nuclear factor kappa B(NF- κ B). The objective of this work is to know whether glycoconjugates are involved in TNF α -TNFR1 interaction. TNFR1 has three N-linked glycosylation sites. The treatment of sialic acid to 293 cell, inhibits NF- κ B activation by preventing TNF α -TNFR1 interaction, which is caused by the competition between TNF α and sialic acid.

When TNFR1-Fc was treated with sialidase, the binding activity of TNF α to TNFR1-Fc reduced. We produced TNFR1-Fc with a mutated N-linked glycosylation site by using site directed mutagenesis and investigated the effects of the mutation on TNF α -TNFR1 interaction by luciferase assay and immunoprecipitation. Through these studies, we show that glycosylation plays critical roles in the interaction between TNF α -TNFR1.

Z506 Neuronal Cell Death of Sweet Potato Hornworm, *Agrius convolvuli* during Development

Myung-Hwan Lee*, Mikyung Kim¹, Kwang-Youl Seol²,
and Chi-Young Yun
Dept. of Biology, Taejon University; ¹Molecular Glycobiology Research Unit, KRIBB; ²Lab of Mass Production System, NSERI

Neuronal cell death was occurred significantly around 3 or 4 day after pupation and just after adult ecdysis. In order to elucidate the degree of cell death in first unfused abdominal ganglion(A₃) by cyto-histological method, hematoxylin-eosin counter staining method at sectioned materials and toluidine blue staining method at whole mounted materials were used. Although 170 motoneurons were counted 3 day before adult ecdysis, 24 cells were counted 5 day after adult ecdysis. Especially 50% of neurons in abdominal ganglion A₃ was degenerated during the first day after adult ecdysis. For morphological study in cell death, scanning electron microscopic data showed cells attached to the surface of ganglion and transmission electron microscopic data showed the symptom of cell death as follows: chromatin was contracted in Stage I, shrinkage of nucleus was detected in Stage II, many vacuoles in cytoplasm was appeared in Stage III, and outlines of nucleus and cytoplasm were destroyed in Stage IV.