

E117 Purification and Characterization of apolipoprotein-III in the Hemolymph of the Wax Moth, *Galleria mellonella* L.

Su Jin Lee¹, In Hee Lee¹, Chang Soo Kang¹,
Chung Sik Choi², and Hwa Kyung Yun^{*}

Department of Biology, Hanseo University, ¹Department of life science, Hoseo University, ²Department of Biology, Korea University

Two molecular species of apolipoprotein-III (apoLp-III) were purified from last instar larval hemolymph of *Galleria mellonella* by gel permeation chromatography (Sephadex G-100), ion exchange chromatography (DE-52), heat treatment (90°C for 30min) and Mono S FPLC, and named apoLp-III-a and apoLp-III-b, respectively. They were indistinguishable by SDS-PAGE but could be separated by native PAGE. The molecular weight of apoLp-III determined by SDS-PAGE was approximately 18kDa. The N-terminal amino acid sequence of apoLp-III-b reveals high similarities with the apoLp-III from *Manduca sexta*. Also, the CD spectrum and amino acid composition of apoLp-III-a and apoLp-III-b were investigated.

E118 Effects of NAD or NADP on the stability of liver and pectoral muscle enzymes in niacin deficient quail by heat

Young Hyun Koh and In Kook Park
Department of Applied Biology, Dongguk University

1. Liver and muscle enzymes in niacin deficient quail were characterized as their stabilities towards heat treatment in the presence and absence of coenzymes NAD or NADP. In the liver NAD or NADP provided a similar degree of protection against heat inactivation at 55°C for 6-phosphogluconate dehydrogenase(24%), glyceraldehyde-3-phosphate dehydrogenase(24%) and malic enzyme(20%), low level of protection of lactate dehydrogenase(13%) but didn't affect acetylcholinesterase at all. In the muscle, however, there was substantial protection against heat inactivation by coenzyme of glyceraldehyde-3-phosphate dehydrogenase(54%), an intermediate level of protection of lactate dehydrogenase(23%), very little protection of 6-phosphogluconate dehydrogenase(17%) and malic enzyme(17%), and almost no protection of acetylcholinesterase.

2. Among all enzymes tested, glyceraldehyde-3-phosphate dehydrogenase showed the greatest protection against heat inactivation by NAD. The results suggest that the effect of niacin deficiency on the stability of muscle glyceraldehyde-3-phosphate dehydrogenase appears to be quite specific and selective.