## Z401 The Effects of Niacin Deficiency on The Levels of Soluble Proteins And Enzyme Activities of Japanese Quail

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The effects of niacin deficiency on the levels of soluble proteins and enzyme activities of Japanese quail have been investigated. SDS-polyacrylamide gel electrophoresis revealed that in the pectoral muscle the soluble proteins with molecular masses corresponding to 181 kDa, 93 kDa, 43 kDa, 28 kDa and 20 kDa were present in lower amounts but those of 37 kDa were present in higher amounts. In the intestine the soluble proteins with molecular masses corresponding to 181 kDa, 102 kDa, 93 kDa, 74 kDa, 72 kDa, 44 kDa and 40 kDa were present in lower amounts but those of 41 kDa and 18 kDa were present in higher amounts. There was a marked reduction in the level of NAD and NADPH in the pectoral muscle but not in other tissues. The specific activity of glyceraldehyde-3-phosphate dehydrogenase decreased markedly both in the liver and pectoral muscle whereas that of 6-phosphogluconate dehydrogenase and malic enzyme decreased markedly in the liver or pectoral muscle, respectively. In contrast, the specific activity of acetylcholinesterase and carboxypeptidase increased markedly in the liver or the pectoral muscle, respectively. The results suggest that a severe niacin deficiency exerted specific effects on levels of some soluble proteins particularly in the pectoral muscle and intestine and on activities of certain enzymes in the liver and the pectoral muscle.

## Z402 Identification and Characterization of Three Chitin Binding Proteins from the Hemolymph of Sweet Potato Hornworm, *Agrius convolvuli*

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Three chitin-binding proteins(CBPs) of *A. convolvuli* fifth instar larval hemolymph were identified from *in vitro* incubation with homogenous chitin. Molecular weights of those three CBPs are about 10, 18 and 66 kDa, respectively in SDS-PAGE. Thirty seven N-terminal amino acid residues of CBP10(M.W.; 10 kDa) shows low similarity(below 52%) in BLAST search on the while CBP18 and CBP66 show very high homolgy with lysozyme and BSA, respectively. We purified CBP10 to homogenity using sequentially GPC(Sephadex G-50), IEC(Mono S, FPLC), and RPC(SMART System). In inhibition zone assay, CBP10 showed no antibacterial activity against *E. coli* and *M. luteus* while CBP18 showed strong antibacterial activity against *M. luteus.* CBP10 also showed no hemagglutinating activity aganist rabbit RBC.