

3-3-10. Purification and Characterization of Methionine-rich Storage Protein from the Wild Silkmoth, *Samia cynthia pryeri*

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In the most holometabolous insects, the storage proteins synthesized in the fat body cells of the final larvae are released into their haemolymph, are uptaken into the fat body during the metamorphic transformation from larvae to pupae, and then contributed as reservoir of amino acids for the transformation from pupae to adult. This storage protein was purified from the hemolymph of last instar larvae in the wild silkmoth, *S. cynthia pryeri* by the FPLC techniques, ion exchange chromatography and gel permeation chromatography. The purified storage protein has the molecular mass of 460 kDa, which was estimated by chromatographic techniques and was composed of a single subunit with a molecular weight of 75 kDa, which was determined by SDS-PAGE. These results shows that this protein is a hexameric protein. The amino acid composition of this hexameric storage protein contains high contents of aromatic amino acid (about 15%) and high level of methionine (about 5%). Comparison of amino acid composition of this methionine-rich storage protein with those of the other insects indicated that this hexameric storage protein of *S. cynthia pryeri* can be classified as a methionine-rich storage protein. In Western blot analysis using polyclonal antiserum against the purified methionine-rich storage protein of *S. cynthia pryeri*, it showed that the antibody strongly reacted with the methionine-rich storage protein of *S. cynthia pryeri* and storage proteins of the other silkmoth species such as *Bombyx mori*, *Antheraea pernyi*, *Antheraea yamamai* and *Bombyx mandarina*. Therefore, these results indicate that the methionine-rich storage protein purified in the study is closely related immunologically to those of the four lepidopteran silkmoths tested.