Lipophorin Of The Larval Stalk Borer, Busseola Fusca: Purification And Properties

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Abstract:

Lipophorin was isolated from the stalk borer, Busseolafusca, larvae by ultracentrifugation in a KBr density-gradient. The lipophorin (M, ˜ 700,000) is a high density lipoprotein (density = 1.13 g/ml) composed of 46% lipids and 4% carbohydrates. It consists of two apoproteins, apolipophorin-I (apo Lp-I, Mr ˜210,000) and apolipophorin-II (apo Lp-II, Mr ˜78,000). Both apoproteins are glycosylated as shown by periodate Schiff reagent staining and binding to the lectin, concanavalin A. Amino acid composition analysis of lipophorin showed predominance of aspartate (13%), glutamate (9%) and glycine (9%). In an immunoblotting experiment, both apoproteins showed immunoreactivity with antiserum to B, fusca lipophorin and no cross-reactivity occurred with any other haemolvmph proteins. Immunodiffusion studies with the same antibodies showed cross-reactivity with haemolymph derived from other Lepidoptera and not from Orthoptera, Dictyoptera or Diptera.