Sericologia 56(3): 160-164, 2016
ISSN 0250-3980

Research Paper

LIPOPHORIN OF ERI SILKMOTH, *SAMIA RICINI* AND ITS IMMUNOLOGICAL PROPERTIES

T. Dyna Susan, M. Chitra, K. Trivedy, K. Vijayan and G. Ravikumar*

Seri-biotech Research Laboratory, Central Silk Board, Carmelaram Post, Kodathi, Bengaluru 560035, India.

*E mail: ravikumarpillai@gmail.com

ABSTRACT

Samia ricini (Lepidoptera: Saturniidae), the Indian eri silkworm, contributes significantly to the production of commercial silk and is the only domesticated non-mulberry silkworm. In the present study, we demonstrated the immunological properties of the lipophorin (Lp) of eri silkworm and its cross-reactivity with Lps of other insects. Lp was purified by potassium bromide (KBr) density gradient ultracentrifugation and SDS-PAGE. The high density Lp (density: 1.1038 g/ml) of *S. ricini* consisted of two apolipophorins: apolipophorin I (apoLp-I) and apolipophorin II (apoLp-II) with an estimated molecular mass of 260 and 80 kDa, respectively. Specificity of the *S. ricini* HDLp polyclonal antiserum was demonstrated by western blotting as HDLp antiserum strongly reacted with apoLp-I and apoLp-II proteins. Further, apoLp-I and apoLp-II antiserums cross-reacted with apoLp-II and apoLp-I, respectively, albeit with less intensity. Cross-reactivity studies indicated that HDLp antibodies of *Bombyx mori* recognized *S. ricini* apoLp-I and apoLp-II, however, *Locusta migratoria* HDLp antibodies did not cross-react with either *S. ricini* or *B. mori* apoLp-I and apoLp-II. These results indicate that despite the sequence similarities of insect HDLps, there are immunological differences of lipophorins between distantly related species.

Key words: Cross-reactivity, high density lipophorin, *Samia ricini*.