

Development of a vaccine against human lice

Abstract:

The human body louse, *Pediculus humanus*, showed eighteen midgut proteins ranging between 12 and 117 kDa, when analysed by SDS-PAGE electrophoresis. Seven of them (12 kDa, 17 kDa, 29 kDa, 35 kDa, 40 kDa, 55 kDa and 97 kDa) were major bands based on their intensity of staining. The immunization of rabbits with a midgut extract elicited the production of protective polyclonal antibodies. These antibodies reacted strongly with all major midgut proteins as well as with 63 kDa and 117 kDa proteins when tested by the Western blot technique. The analysis of the proteins revealed that the 12 kDa, 25 kDa, 29 kDa, 35 kDa, 45 kDa, 87 kDa and 97 kDa proteins are glycosylated and none of them contained a lipid moiety. By electroelution, the proteins of 35 kDa and 63 kDa were purified. On trypsinization, the proteins of 35 kDa and 63 kDa produced four major fragments (F1, F2, F3, and F4) when resolved on a 18% SDS-PAGE. The F1 fragment of the 35 kDa protein reacted with the polyclonal antibodies by the immunoblot technique.