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Identification of potential antigenic targets for rapid expulsion of *Trichinella spiralis*

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Abstract

Rat monoclonal antibodies, which have been shown to mediate rapid expulsion of *Trichinella spiralis* in infant rats, were used in immunochemical analyses to identify the antigens targeted in protection. Protective antibodies bound to gp45, and to a series of related antigens, in the excretory-secretory products of muscle stage larvae. Non-protective antibodies did not bind gp45, but did bind the related species. The latter were shown to be present as aggregates (dimers and multimers) in excretory-secretory products. Protective antibodies bound to all four muscle larvae surface antigens (105, 97, 55, 51 kDa), while non-protective antibodies bound to two species (97 and 51 kDa). In this way, the 97- and 51-kDa surface antigens were shown to be antigenically related to the non-gp45 species in excretory secretory material. Although protective properties of antibodies were found to be linked to gp45 and 105/55-kDa surface antigen binding, additional components in whole larval lysates were also bound by protective but not by nonprotective antibodies. Further definition of the target(s) of rapid expulsion and its related phenomena must await results of protection experiments designed to distinguish between the effects of antibody binding to surface and secreted antigens, including procedures employing purified, non-crossreactive antigens.

Author Keywords: *Trichinella spiralis*; Antigens; Antibody

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