Excretory/secretory antigens of *Strongyloides venezuelensis* applied to IgG detection in human strongyloidiasis and other parasitic infection groups.

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Human strongyloidiasis is a neglected intestinal parasitosis, with a large worldwide distribution, affecting millions of people, and may lead to chronification and hyperinfection if not diagnosed early. The cases that deserve more attention are those related, mainly, to immunocompromised patients. The parasitological diagnosis of this helminth is not very sensitive due to the small and irregular larval output in the faeces. Immunological methods, especially enzyme-linked immunosorbent assay (ELISA), present high sensitivity and specificity, however, there is always a need to improve and increase diagnostic efficiency to avoid cross-reactivity and cases of false-negative results. The aim of this study was to produce and standardize excretion/secretion (E/S) antigens of filariform larvae (L3) of *Strongyloides venezuelensis* for immunodiagnostic use. The L3 larvae of *S. venezuelensis* were obtained for the production of total saline extract (SE), E/S in Roswell Park Memorial Institute medium (RPMI) and E/S in phosphate-buffered saline (PBS). All antigens were used in the detection of IgG anti- *S. stercoralis* in patients with and without immunosuppressive conditions. A total of 150 human serum samples were used, divided into 5 groups. Immunocompetent individuals positive for strongyloidiasis (n=30) or negatives for strongyloidiasis (n=30); patients with others parasites (n=30) such as hookworms, *Ascaris lumbricoides*, *Hymenolepis nana*, *Giardia lamblia*, *Schistosoma mansoni*, *Enterobius vermicularis*, *Trichuris trichiura* and *Taenia* sp; immunosuppressed patients positive for strongyloidiasis (n=30), including HIV, diabetes, alcoholics, tuberculosis, cancer, and alcoholics with cancer and negative immunosuppressed patients for intestinal parasites (n=30) including HIV, diabetes, alcoholics, tuberculosis and cancer. All antigens were observed to have similar antigenic fractions with molecular weights of 62, 44, 39, 33 and 18 kDa. However, when used in the ELISA test the E/S antigens in both RPMI and PBS media were more specific than SE, 94.4%, 96.7% and 77.8%, respectively, whereas the antigen E/S in PBS was more sensitive (95.0%) than the other two antigens (SE 93.3% and RPMI 86.7%). The E/S antigens were easy to perform and the E/S product in PBS was more sensitive and specific than the other antigens in the study. It may conclude that the E/S in PBS antigen is a good alternative for a more sensitive and specific diagnosis of human strongyloidiasis.

Keywords: Strongyloidiasis; immunodiagnosis, antigens, excretion/secretion, *Strongyloides venezuelensis*

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