

# Proteomic analyses of crude extracts of *S. venezuelensis* and *S. stercoralis* filariform larvae L3 and of excretory/secretory products of *S. venezuelensis* larvae

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The proteomic analysis of crude extract of *S. stercoralis* and *S. venezuelensis* larvae and excreted/secreted larvae products of *S. venezuelensis* were performed using the shotgun platform (LC-MS / MS) for separation and identification of tryptic peptides. There were identified 272 proteins: 158 in *S. stercoralis* (CSS) and 62 in *S. venezuelensis* (CSV) crude extracts. Analysis of secretory/excretory products of *S. venezuelensis* (ESPSV) revealed 52 proteins. Twenty-nine proteins were shared among the three helminth products analyzed. From the 108 proteins found exclusively in CSS, seven showed homology among species of the *Strongyloides* genus: of those, three have homology with *S. stercoralis* (allergen polyprotein homolog, metalloproteinase precursor and L3NIEAG.01); two with *S. ratti* (macrophage migration inhibitory factor and 14-3-3 zeta); one with *S. papillosus* (glyceraldehyde 3 phosphate dehydrogenase) and one (Beta-tubulin) identified has homology with the three *Strongyloides* species (*S. stercoralis*, *S. ratti*, *S. papillosus*). A total of thirteen proteins were identified in both CSV and CSS, however only two proteins (HSP 60 and TPA\_inf: eukaryotic translation elongation factor) has homology with *S. stercoralis* and *S. ratti* respectively. The ubiquitin protein was the most representative of the secreted/excreted products of *S. venezuelensis* (ESPSV); however, it showed no signal peptide. In contrast, three proteins of CSS (eosinophil peroxidase and metalloproteinase precursors and V-type ATPase subunit B) and two of the CSV (70 kDa and 70 kDa heat shock putative) showed signal peptides, suggesting that multiple pathways can be used by *Strongyloides* molecules secretion. This study described herein, corroborates that immunogenic proteins of *Strongyloides* can be identified in proteomics analysis, which can be used as candidates for vaccination strategies and diagnosis approaches.

**Keywords:** *Strongyloides stercoralis*. Crude extract Secretory/excretory products. Proteomics