

## ***Phytomonas serpens*: Immunological Similarities With The Human Trypanosomatid Pathogens**

Santos, L.O.<sup>1</sup>, Marinho, F.A.<sup>1</sup>, Vermelho, A.B.<sup>1</sup>, Santos, A.L.S.<sup>1</sup>, d'Avila-Levy, C.M.<sup>2</sup>, Branquinha, M.H.<sup>1</sup>

<sup>1</sup>Dept. Microbiologia Geral, Instituto de Microbiologia Professor Paulo de Góes, UFRJ, Rio de Janeiro, Brazil

<sup>2</sup>Instituto Oswaldo Cruz, FIOCRUZ, Rio de Janeiro, Brazil.

*Phytomonas* spp. are found in a wide variety of plant species. These trypanosomatids are etiologic agents of diseases that affect fruits and plants of great economical importance. The purpose of this study was to characterize immunological similarities between *Phytomonas serpens* and human trypanosomatid pathogens, with especial attention to proteolytic enzymes of *T. cruzi* and *Leishmania* spp. Our results showed leishmanolysin homologues on the cell surface or being released by *P. serpens*. We also demonstrated that anti-cruzipain antibodies recognized two major polypeptides in *P. serpens*, including a 40 kDa surface component. For this plant trypanosomatid, these molecules are relevant to the interaction process with the insect vector. Efforts to generate safe and effective means of immunization against *T. cruzi* and *Leishmania* spp. infections have had limited success, since the use of live virulent microorganisms generally presents a risk because some may escape the attenuation process. The immunodominant nature of many proteases offers potential for vaccine development. The expression of protein homologues of *Leishmania* spp. and *T. cruzi* virulence factors in *P. serpens*, which is isolated from tomatoes, a fruit usually consumed *in natura*, confirms its relevance as a model for these studies.

Supported by: MCT/CNPq, CEPG/UFRJ and FIOCRUZ.