Performance of *Leishmania braziliensis* enolase protein for the serodiagnosis of canine and human visceral leishmaniosis

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In the present study, *Leishmania braziliensis* enolase was cloned and the recombinant protein (rEnolase) was evaluated for the serodiagnosis of canine and human visceral leishmaniosis (VL). For the canine VL diagnosis, this study examined serum samples of *Leishmania infantum*-infected dogs, from non-infected animals living in endemic or non-endemic areas of leishmaniosis, as well as those from Leish-Tec®-vaccinated dogs and *Trypanosoma cruzi* or *Ehrlichia canis* experimentally infected animals. For the human VL diagnosis, this study analyzed serum samples from VL patients, from non-infected subjects living in endemic or non-endemic areas of leishmaniosis, as well as those from *T. cruzi*-infected patients. In the results, an indirect ELISA method using rEnolase showed diagnostic sensitivity and specificity values of 100% and 98.57%, respectively, for canine VL serodiagnosis, and of 100% and 97.87%, respectively, for human VL diagnosis. These results showed rEnolase with an improved diagnostic performance when compared to the recombinant A2 protein, the crude soluble *Leishmania* antigenic preparation, and the recombinant K39-based immunochromatographic test. In conclusion, preliminary results suggest that the detection of antibodies against rEnolase improves the serodiagnosis of human and canine visceral leishmaniosis.

Keywords: enolase; serodiagnosis; recombinant protein; leishmaniosis; dogs; humans.

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