Journal of Medical Microbiology (2014), 63, 106–110 DOI 10.1099/jmm.0.063891-0



Performance of an indigenous b-mercaptoethanol- modified antigen in comparison with a commercial reference in direct agglutination test for detection of canine visceral leishmaniasis

Saul Jose ́ Semia ̃o-Santos,1 Laura Barral Veloso,1 Paulo Paes de Andrade,2 Marcia Almeida de Melo,3 Luis Miguel Lourenc ̧o Martins,1,4 Artur Armando de Moura Marinho,1 Jose ́ Antunes Afonso de Almeida,1,5 Le ́nea Maria da Grac ̧a Campino6 and Abdallah el Harith73

1Instituto de Cieˆ ncias Agra ́ rias e Ambientais Mediterraˆ nicas. Universidade de E ́ vora, E ́ vora, Portugal

2Departamento de Gene ́tica, Universidade Federal de Pernambuco, Recife, Pernambuco, Brazil

3Laborato ́rio de Biologia Molecular do Semia ́rido, Unidade Acadeˆmica de Medicina Veterina ́ria, Universidade Federal de Campina Grande, Patos, Para ́ıba, Brazil

4Departamento de Medicina Veterina ́ria, Universidade de E ́vora, E ́vora, Portugal 5Departamento de Zootecnia, Universidade de E ́ vora, E ́ vora, Portugal 6Unidade de Leishmanioses, Instituto de Higiene e Medicina Tropical, Lisboa, Portugal 7Ahfad University for Women, Omdurman, Sudan

We compared the performance of a locally produced b-mercaptoethanol-modified promastigote antigen (b-ME-Ag) of an indigenous Leishmania infantum strain against that of a trypsinized Leishmania donovani reference (REF-Ag) in the direct agglutination test (DAT) for detection of canine visceral leishmaniasis (CVL). One hundred and fifty-one serum samples collected from dogs belonging to four groups with different conditions were included. At a DAT titre of 1 : 320, statistically determined as optimal cut-off value for b-ME-Ag, and 1 : 160 for REF-Ag, a sensitivity and a specificity of 100 % were estimated for b-ME-Ag in comparison with 96.6 % and 100 %, respectively, for REF-Ag. Overall, levels of agglutination titres recorded for the two antigens were highly concordant (Cohen’s k50.879) in both the CVL and non-CVL groups. Based on current results, and ease experienced in processing the antigen and reading the test outcome, we recommend incorporation of b-ME-Ag in DAT for confirmation or exclusion of suspected CVL in dogs.

Correspondence

Abdallah el Harith harith17@yahoo.com

Received 19 June 2013 Accepted 14 October 2013

 