The detection of non-RoTat 1.2 Trypanosoma evansi.

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Abstract

The majority of Trypanosoma evansi can be detected using diagnostic tests based on the variant surface glycoprotein (VSG) of Trypanosoma evansi Rode Trypanozoon antigen type (RoTat) 1.2. Exceptions are a number of T. evansi isolated in Kenya. To characterize T. evansi that are undetected by RoTat 1.2, we cloned and sequenced the VSG cDNA from T. evansi JN 2118Hu, an isolate devoid of the RoTat 1.2 VSG gene. A 273 bp DNA segment of the VSG gene was targeted in PCR amplification for the detection of non-RoTat 1.2 T. evansi. Genomic DNA samples from different trypanosomes were tested including 32 T. evansi, 10 Trypanosoma brucei, three Trypanosoma congolense, and one Trypanosoma vivax. Comparison was by PCR amplification of a 488 bp fragment of RoTat1.2 VSG gene. Results showed that the expected 273 bp amplification product was present in all five non-RoTat 1.2 T. evansi tested and was absent in all 27 RoTat 1.2-positive T. evansi tested. It was also absent in all other trypanosomes tested. The PCR test developed in this study is specific for non-RoTat 1.2 T. evansi.