Assessment of the First Commercial ELISA Kit for the Diagnosis of Theileria annulata

Amira A. T. Al-Hosary, Jabbar Ahmed, Ann Nordengrahn, Malik Merza

Abstract:

Copyright © 2015 Amira A. T. Al-Hosary et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The present study assesses the efficacy of SVANOVIR Theileria annulata-Ab, the first commercial ELISA kit for the diagnosis of Theileria annulata infection in cattle based on a recombinant protein known as T. annulata surface protein (TaSp). As a reference test, a polymerase chain reaction (PCR) assay depending on T. annulata merozoite surface antigen (Tams-1) was applied. A total of 468 blood samples as well as sera samples were randomly collected from cattle and tested in the PCR as well as in the ELISA developed in this study. Moreover, all samples were also analyzed by conventional Giemsa-stained blood smear. The results of this study revealed a good correlation between the results obtained by PCR and the ELISA, whereas all PCR positive samples scored correctly positive in the ELISA and 73 of the 125 PCR negative samples scored correctly negative. Taken together, a sensitivity of 91.25% and a specificity of 78.4% were recorded, when compared to the PCR data. In conclusion, the SVANOVIR Theileria annulata-Ab is a suitable diagnostic assay for use in the diagnosis and epidemiological surveys of Theileria annulata infection in chronic and carrier animals.

Published In:

Journal of Parasitology Research, Volume 2015, Article ID 787812, 4 pages