



¹Institute of Veterinary Medicine, Kiev, Ukraine

²Friedrich Loeffler Institut, Federal Research Institute for Animal Health, Institute of Bacterial Infections and Zoonoses, Jena, Germany

³State Scientific Control Institute of Biotechnology and Strains of Microorganisms, Kiev, Ukraine

⁴Black and Veatch Special Projects Corp., Kiev, Ukraine

EVALUATION OF SEVERAL COMPLEMENT FIXATION TEST ANTIGENS AND A ROSE BENGAL TEST ANTIGEN FOR SEROLOGICAL DIAGNOSIS OF GLANDERS

R. Koziy¹, M.C. Elschner², F. Melzer², V. Skrypnyk³, A. Skrypnyk⁴

Complement fixation test (CFT) is the OIE prescribed method for the serological diagnosis of glanders. A variety of CFT antigens and CFT kits is produced by different manufacturers, using different strains and production methods. Thus, the diagnostic performance of different antigens may vary considerably. Rose-Bengal test (RBT) was suggested as an express method and validated for the serological diagnosis of glanders in Russia as an additional method. **The purpose** of this study was to comparatively evaluate three CFT antigens, commercially available at c.c.pro GmbH, Oberdorla, Germany, Kursk biofactory BioK, Russia, and Jovac, Jordan; and a RBT antigen from Kursk biofactory BioK, Russia.

Methods

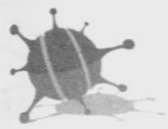
Using each antigen we examined 711 horse sera collected in Ukraine and considered glanders-free; and 94 sera, collected from endemic regions and confirmed as positive either by isolation of the causative agent *Burkholderia mallei* or by immunoblot method.

Results

Based on the results specificity and sensitivity of each test were calculated: 97,9% and 97,9% for c.c.pro, 99,7% and 78,4% for BioK, 99,1% and 73,1% for Jovac, 90,1% and 80,9% for RBT antigen, respectively. CFT antigens showed good agreement with "golden standard", while RBT antigen showed a moderate agreement.

Conclusion

Thus, c.c.pro antigen had the most consistent results, while both BioK and Jovac had a significantly lower sensitivity. The RBT results suggest that this test should only be used in combination with other tests and its results should be interpreted with caution. The results of this study illustrate the need to implement confirmatory tests, such as immunoblot, for the serological diagnosis of glanders.

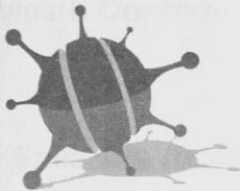


Corresponding author

Dr. Mandy Elschner
Friedrich Loeffler Institut
Federal Research Institute for Animal Health
Institute of Bacterial Infections and Zoonoses
Naumburger Str. 96a, 07743 Jena, Germany
E-Mail: mandy.elschner@fli.bund.de

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DVG Service GmbH
Friedrichstr. 17 · 35392 Giessen
Tel.: +49 (0)641 24466 · Fax: +49 (0)641 25375
E-Mail: info@dvg.de · Homepage: www.dvg.de