BREAKTHROUGH IN QUICK, SENSITIVE AND SPECIFIC DIAGNOSIS OF AFRICAN HORSE SICKNESS

The control of AHS has often been hampered by the extended period required to confirm the diagnosis and therefore one of our primary areas of research has been on the development and implementation of methods to significantly reduce this time period.

A recent study that involved the testing of the blood of 503 African horse sickness (AHS) suspect horses, 503 uninfected and unvaccinated South African horses, as well as 98 samples from horses from an AHS free country compared the duplex real-time reverse transcription quantitative PCR (RT-qPCR) test developed by the ERC with the virus isolation (VI) test which is currently considered as the "Gold Standard" test for identification of AHS virus.

The results of the AHSV RT-qPCR and the VI tests for the AHS suspect horses, showed the median sensitivity of the AHSV RT-qPCR was >97.8% compared with approximately 44% for the VI. Furthermore the AHSV RT-qPCR test can be processed within 4 hours of arrival of the bloods at the laboratory, whereas VI takes up to 3 weeks before results are obtained.

The AHSV RT-qPCR test has therefore proved itself far superior to VI for the detection of AHSV, in terms of sensitivity, specificity, and the reduction in turnaround time of tests. This test enables the screening of samples from large groups of horses, is useful for testing horses prior to movement or export or for surveillance during an AHS outbreak. The severe nature of AHS and the implications of a false-negative result make it necessary to have highly accurate tests. This test is extremely useful for detecting AHSV free and infected horses, and its reproducibility now needs to be evaluated in other laboratories as a global standard for detection of AHSV.

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