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*Towards  
the veterinary  
diagnostics  
of the  
future*

Main topic : Animal Health

**The assessment of agreement between point-of-care and traditional real-time PCR assays for Equine herpes virus type 1 detection.**

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## Introduction

The equine herpesvirus type 1 (EHV-1) is one of the most critical pathogens in equine medicine. EHV-1 is a respiratory pathogen but can cause outbreaks of abortion and neurological disease – equine herpesvirus myeloencephalopathy (EHM). EHM outbreaks can have high morbidity and mortality rates and a significant economic impact on the equine industry. Recent EHM outbreaks during international equestrian events have shown the urgent need for a fast and reliable diagnosis.

Accessing PCR testing for EHV-1 for horses arriving at designated events and a timely diagnosis of EHV-1 infections during events is essential from a diagnostic and biosecurity standpoint. Moreover, there is a need for validated testing that can return rapid results to be available seven days per week.

Tremendous technological progress in recent years provides rapid point-of-care (POC) molecular assay development for human and animal infectious pathogens.

Thus, this study aimed to assess the level of agreement between POC Equine Herpesvirus 1 (EHV-1) Fluxergy Test Kit (Fluxergy, Irvine, CA, USA) and traditional commercial real-time PCR test.

## Methods

For the purpose of this study, 124 samples were checked. All samples were the cell line media containing different viruses such as EHV-1, EHV-4, equine influenza virus (EIV), equine arteritis virus (EAV), and negative controls.

The analyses by EHV-1 Fluxergy Test Cards and Fluxergy Analyzer System MK 12.1. were done in different laboratories than regular real-time PCR. All samples have been blinded for analysis.

Cohen's Kappa and Gwet's AC1 tests were used to determine the agreement between the two diagnostic tests.

## Results

The observed agreement between tests was 88.7%. Chance-corrected agreement for Cohen's kappa coefficient was 73.8% (CI 95%: 60.9% - 86.8%), while Gwet's AC1 coefficient was 80.2% (CI 95%: 70.4% - 89.9%), indicating a very good tests agreement.

## Conclusions

The POC Equine Herpesvirus 1 (EHV-1) Fluxergy Test results agree very well with routinely used real-time PCR.

A strong agreement of the POC Fluxergy EHV-1 test with widely used laboratory method plus a short turn-around time makes the Fluxergy a perfect solution for EHV-1 rapid diagnosis in the field.