

THE IMPORTANCE OF RELIABLE EIA TESTING

- Equine infectious anemia is a USDA regulated disease
- Once infected, equids will remain inapparent carriers for life and risk infecting other animals if they are not diagnosed and removed from the herd
- Reliable and consistent EIA testing is critical to facilitate timely equid movement
- VMRD provides EIA ELISA and AGID diagnostic kits that have excellent lot-to-lot consistency and stability, as well as continuous availability

Equine infectious anemia (EIA) is a lentivirus that affects equids worldwide. It is a cyclical disease producing acute episodes of disease interspersed with clinically normal periods. The acute phase usually only lasts for a few days and is characterized by anemia, fever, and thrombocytopenia. Infected animals usually stop showing signs of clinical disease within a year, though they will remain inapparent carriers for the rest of their lives. If stressed, such inapparent carrier horses may suffer recurrent viremia and disease.



Not all EIA Assays are created equal

VMRD's EIA kits detect antibody to the p26 capsid protein, a moderately immunogenic but highly stable domain of the virus. Focusing on this target allows us to produce assays with maximum sensitivity and specificity, exceeding 99% in both parameters. Thanks to some biotechnological wizardry we are able to produce these assays with previously impossible precision and accuracy without using any infectious virus. Good technology is of little value without good manufacturing, so our kits are subjected to a stringent in-process, release, and product-lifetime quality control regimen. All of these factors converge to yield perpetual kit availability, rock-solid stability, and standard of the industry lot-to-lot consistency and accuracy.

CLINICAL SIGNS: ANEMIA ■ THROMBOCYTOPENIA ■ FEVER ■ DEPRESSION ■ WEIGHT LOSS

Transmission

Under natural conditions, transmission occurs when infected blood is transferred from one horse to another via blood-feeding insects, typically flies. Horses that live in close proximity to each other are especially susceptible if one horse becomes infected. Blood virus titers are higher when an infected animal is showing clinical signs of disease, and the risk of the virus being transmitted to healthy horses is increased. EIA can also be transmitted using contaminated medical equipment.

Treatment and Control

Currently there is no safe and effective vaccine available for EIA. Due to this, and the fact that equids are the only known source of infection, early diagnosis and removal from a herd is critical in preventing further transmission of the disease. The USDA dictates that animals that test seropositive for EIA must be placed under quarantine and kept at least 200 yards away from other equids. All positive horses must be permanently identified and can only move from state-to-state to a slaughter facility or a diagnostic center with an official permit. The USDA also requires that all equids test negative within 12 months prior to moving across state lines. Some states make additional requirements beyond federal stipulations

While there are several different diagnostic tests available for EIA, the Agar Gel Immunodiffusion Test (AGID), is the internationally recommended serological test and the one currently used most frequently. ELISA tests are gaining increased acceptance as these provide rapid results with higher sensitivity. The current regulatory recommendation is to confirm any ELISA positive results with an AGID test. When used together, AGID and ELISA testing provides the best combined sensitivity and specificity.



Citations:

Equine infectious anaemia Chapter 256. OIE Terrestrial Manual (2013)
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Timoney, Peter J. Overview of Equine infectious anemia. The Merck Veterinary Manual (February 2014).
http://www.merckmanuals.com/vet/generalized_conditions/equine_infectious_anemia/overviewhtml