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### Equine

**Equine Herpesvirus type 1** is a primary equine pathogen that produces respiratory disease, abortion, neonatal death and/or neurological disease. A variant of this virus contains a certain mutation in the viral genome (‘neuropathogenic marker’), which causes the virus to have a special affinity for nervous tissue; therefore, it is associated most commonly with neurologic signs in EHV-1 outbreaks. However, both forms of the virus (non-neuropathogenic and neuropathogenic) may produce all the syndromes listed above. Clinical examination, necropsy and histopathology can provide only a presumptive diagnosis of the disease. Confirmation of the diagnosis is usually reached by PCR on samples from live or dead horses. This technique has the advantage to differentiate between the non-neuropathogenic and the neuropathogenic form of the virus. Veterinarians or horse owners wishing to test their horses (showing clinical signs or having recently been exposed) for Equine Herpes Virus-1 (EHV-1) should submit a nasal swab sample to CAHFS-Davis. The swab can be shipped in viral transport media or simply in a red-top tube on blue ice overnight. The virus can be detected by nasal swab samples from day 1 to day 10 post-infection. An EDTA blood sample may also be submitted in a purple-top tube, however, the window for detecting the virus is much smaller (4-8 days post-infection). Samples will be tested for EHV-1 with and without the neuropathogenic marker. More information about Equine Herpesvirus-1 and its associated diseases can be found at: [http://www.cdfa.ca.gov/AHFSS/Animal_Health/pdfs/QA_EHV-1NeuropathogenicStrain.pdf](http://www.cdfa.ca.gov/AHFSS/Animal_Health/pdfs/QA_EHV-1NeuropathogenicStrain.pdf)

### Toxicology

**Strychnine poisoning**. A Barbados sheep was found dead. There was initial concern that the sheep might have ingested tree tobacco (*Nicotiana glauca*) which was present in the animal’s environment. Rumen contents were tested for plant alkaloids. No nicotine was identified, but, surprisingly, **strychnine** was detected. There was a suspicion that the sheep might have been intentionally exposed to the rodenticide, although no source for exposure was identified. This case emphasizes the need for considering historical information that might point towards a malicious chemical exposure, thorough searching of an animal’s environment for possible sources of exposure and submission and testing of any suspicious environmental or feed sample that is identified. This is in addition to a full suite of tissue and fluid samples (blood, urine, eyeball, gastrointestinal contents, liver, kidney and brain) for analysis.

### Detection (or isolation) of bacterial agents

Successful isolation and identification of bacterial agents requires that the sample be preserved in the best possible condition after collection and during shipment to CAHFS. Samples from non-sterile sites such as skin, eyes, and feces, are susceptible to overgrowth of normal flora which makes isolation of the potential pathogenic agent more difficult. To improve pathogen recovery and identification, samples should be kept moist at refrigerator temperature (40°F) and shipped to the lab within 24 hours of collection with organism of interest indicated on the submission form. Aerobic, Mycoplasma, and anaerobic bacteria may have different preferred preservative systems. Please contact the lab if you are uncertain as to the recommended submission media and would like input before sample collection.
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Your feedback is always welcome. To provide comments or to get additional information on any of the covered topics or services, please contact Sharon Hein at slhein@ucdavis.edu.