

What is EPM?

EPM is a debilitating neurologic disease in horses caused by protozoa. In areas where the opossum, the definitive host that fecally sheds infective *Sarcocystis neurona*, and horses coexist, ~50% of horses are seropositive for *S. neurona*. EPM is also caused by *Neospora hughesi*, and, although the source is uncertain, *N. hughesi* has been identified in horses from across the United States.

Diagnostic Testing

EPM diagnostics, based on indirect fluorescent antibody tests (IFATs), have greater sensitivity than the more common, but less sensitive, Western Blot test. The UC Davis VMTH Clinical Diagnostic Labs offer two distinct IFATs that can be performed on both serum and cerebrospinal fluid (CSF).

SarcoFluor™ - detects *Sarcocystis neurona* antibodies

NeoFluor™ - detects *Neospora hughesi* antibodies

Results

SarcoFluor™ and NeoFluor™ results for serum or CSF submissions are provided as a titer with corresponding estimated probabilities of EPM. If serum and CSF are submitted simultaneously, results will also include a serum/CSF ratio. It is recommended to have a concurrent fluid analysis performed on CSF at the time of SarcoFluor™ or NeoFluor™ testing to rule out blood contamination.

Sample Requirements & Processing

- 1) **SarcoFluor™ and NeoFluor™**
 - a. **Acceptable specimen:** 2mL serum or CSF
 - b. **Whole blood processing for serum:** Spin and separate serum from red cells, placing serum in a new, clean tube. Serum separator tubes are not recommended; the separator becomes dislodged during shipping, mixing the red cells with the serum.
A handling fee will be assessed for unprocessed or improperly processed blood samples
 - c. **CSF processing:** CSF should be collected in a clean red top tube (no anticoagulant). DO NOT spin CSF samples.
- 2) **Fluid analysis**
 - a. **Acceptable specimen:** 1 mL CSF
 - b. **CSF processing:** CSF should be collected in a clean red top tube (no anticoagulant). DO NOT spin CSF samples.
- 3) Fill out sample submission form completely.
- 4) If no test selections are made, an IFAT panel (SarcoFluor™ and NeoFluor™) will be run on each specimen.

Shipping Instructions

- 1) Send all samples with a cold pack / ice pack.
- 2) Ship overnight by FedEx (do not use USPS), Monday-Thursday only. Do not ship on Fridays, weekends, national or university holidays.
- 3) Ship to: **UC Davis VMTH, Central Laboratory Receiving, Room 1033, 1 Garrod Drive, Davis, CA 95616**
(530) 752-VMTH (8684), fax (530) 752-5055
- 4) The VMTH Clinical Diagnostic Labs offer a FedEx Reduced Price Shipping Program. More information at: http://www.vetmed.ucdavis.edu/vmth/lab_services/clinical_labs/shipping.cfm

Expected turnaround times

- 1) SarcoFluor™ and NeoFluor™ turnaround time is 4-6 business days from date of sample receipt.
- 2) CSF fluid analysis turnaround time is 2 business days from date of sample receipt.
- 3) Samples can be run "STAT," with a turnaround time of 3 business days for SarcoFluor™ and NeoFluor™ from date of sample receipt. An additional fee will be assessed with STAT samples.
- 4) All turnaround times assume there are no complications with testing; should complications occur, turnaround times may be delayed.
- 5) Please do not inquire about results before the expected turnaround time.

For more information, please visit our website

http://www.vetmed.ucdavis.edu/vmth/lab_services/clinical_labs/index.cfm



Sample Submission Form
SarcoFluor™ and NeoFluor™
testing (EPM)

SarcoFluor™ or NeoFluor™ sample requirements: Serum in a red top tube and/or a clean cerebrospinal fluid (CSF) tap.
CSF fluid analysis sample requirements: CSF in a red top tube (no anticoagulant).
Sample processing: Spin blood and **separate serum to a new, clean tube**. Serum separator tubes are not recommended.
 DO NOT spin CSF. **A handling fee will be assessed for unprocessed or improperly processed blood samples**
Shipping: Ship on a cold pack for overnight delivery, Monday-Thursday only, to the address below.

UC Davis VMTH, Central Laboratory Receiving, Room 1033, 1 Garrod Drive, Davis, CA 95616
 530-752-VMTH (8684), fax 530-752-5055

For more information, visit our website: http://www.vetmed.ucdavis.edu/vmth/lab_services/clinical_labs/index.cfm

Tests Requested

Check the test(s) requested. If no selections are made, an IFAT panel (SarcoFluor™ & NeoFluor™) will be run

Ratio results are available only if serum AND CSF are submitted simultaneously; CSF fluid analysis is recommended.

IFAT Panel: SarcoFluor™ & NeoFluor™ SarcoFluor™ **EPM CSF Fluid Analysis:** additional fee
 NeoFluor™ **STAT:** results in 3 days for IFAT
 Additional fee applies.

samples submitted with this form: serum CSF

| | |
|-----------------------|------------------------------|
| Serum collection date | CSF collection date and site |
|-----------------------|------------------------------|

Patient Information

| | |
|------|---------|
| Name | Breed |
| Sex | Age/DOB |
| Use | |

Owner Information

| | |
|------|---------|
| Name | Address |
|------|---------|

Submitting Veterinarian Information

| | |
|---|----------------|
| Clinic name | Clinic Address |
| Veterinarian name | |
| Phone | |
| Fax | Email |
| Preferred method of results reporting. Choose one only; if no choice is made, results are faxed <input type="checkbox"/> Fax <input type="checkbox"/> Email | |

Clinical History

- (1) Check any or all clinical signs observed
- | | | |
|---|---|---|
| <input type="checkbox"/> Muscle atrophy | <input type="checkbox"/> Lameness | <input type="checkbox"/> Hind limb ataxia (grade <input type="checkbox"/>) |
| <input type="checkbox"/> Facial paralysis | <input type="checkbox"/> Seizures | <input type="checkbox"/> Fore limb ataxia (grade <input type="checkbox"/>) |
| <input type="checkbox"/> Head tilt | <input type="checkbox"/> Circling | <input type="checkbox"/> Central blindness |
| <input type="checkbox"/> Hypermetria | <input type="checkbox"/> Weakness | <input type="checkbox"/> Tongue atrophy |
| <input type="checkbox"/> Behavior change | <input type="checkbox"/> Other (describe) | |
- (2) Has horse been treated for EPM? No unknown Yes (duration & date) _____
- (3) Vaccinated against EPM? No unknown Yes (date) _____
- | | | |
|------------|--|---|
| rabies? | <input type="checkbox"/> No <input type="checkbox"/> unknown | <input type="checkbox"/> Yes (date) _____ |
| West Nile? | <input type="checkbox"/> No <input type="checkbox"/> unknown | <input type="checkbox"/> Yes (date) _____ |
- (4) Have cervical radiographs or myelogram been done? No Yes (if so, attach report or finding)
- (5) Additional information: