

Instructions

Read the patient results in the laboratory report

- Section 1, SarcoFluor™: Look for titer result(s) in the left column of the table (Serum or CSF); the percentage of probability of EPM is on the right column of the table.
- Section 2, NeoFluor™: Information regarding testing sensitivity and specificity
- Section 3, SarcoBlot™: Look for result(s) in the left column of the table (Serum or CSF); the percentage of probability of EPM is on the right column of the table.
- Section 4, Serum/CSF Ratio: Compare the serum/CSF ratio from the lab report to the Serum/CSF Ratio interpretation.

Refer to testing diagram at right for decision making assistance

1 SarcoFluor™ Interpretation (*Sarcocystis neurona* IFAT)

Serum titer result	Estimated probability of EPM due to <i>S. neurona</i> given the test result **
40	33%
80	55%
160	76%
320	89%
≥640	95%

CSF titer result	Estimated probability of EPM due to <i>S. neurona</i> given the test results
<5	<1%
≥5	92%

2 NeoFluor™ Information (*Neospora hughesi* IFAT)

Based on 7 experimentally infected and 7 controls horses, sensitivity (Se) and specificity (Sp) of the serum NeoFluor™ IFAT at 77 days post-infection were 100% and 86%, respectively, at a 320 cut-off and 100% at a 640 cut-off. CSF sensitivity and specificity were 86% and 100%, respectively, at a cut-off of 5. [1] Prevalence of *N. hughesi* among EPM cases is unknown but likely is much less frequent than *S. neurona*. **

** To improve the turnaround time for SarcoFluor™ and NeoFluor™, serum samples are tested to an endpoint titer of 2560; there is no diagnostic value of titrating serum samples to a high dilution beyond that point.

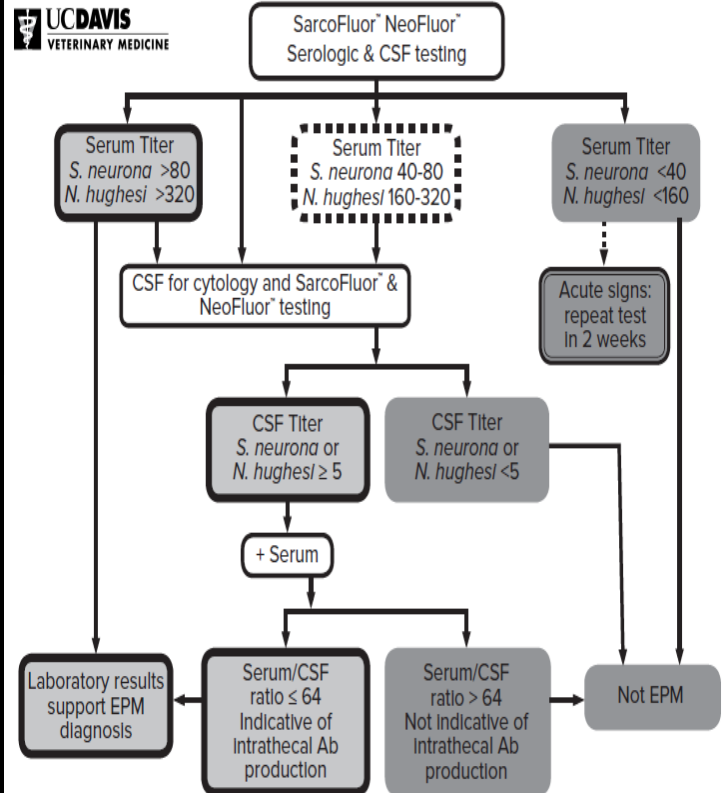
3 SarcoBlot™ Interpretation (*S. neurona* Western Blot) [3]

Results are estimated probability of EPM given results

Serum Result	Probability	CSF Result	Probability
Negative	<1%	Negative	<1%
Positive	44%	Positive	92%

If serum Western Blot result is "suspect positive," a SarcoFluor™ IFAT is recommended.

Diagnostic Flow Chart



4 SarcoFluor™ and NeoFluor™ Serum/CSF Ratio Interpretation

Serum/CSF Ratio	Interpretation
≤ 64	Indicative of intrathecal antibody production
> 64	Not indicative of intrathecal antibody production

Serum/CSF ratios are utilized to confirm intrathecal antibody production with immunodiagnostic testing [2]. For SarcoFluor™ and NeoFluor™ testing, a serum/CSF ratio equal to or below 64 is highly indicative of intrathecal antibody production against *S. neurona* or *N. hughesi*, respectively, if there is no gross evidence of blood contamination or leaky blood-brain barrier.† It is recommended to have concurrent fluid analysis performed on CSF at time of EPM testing to rule out blood contamination. If serum or CSF SarcoFluor™ or NeoFluor™ result is negative, ratios cannot be calculated.

† Validation performed in-house using gold standard cases with confirmed EPM and horses with other non-neurologic disorders.

[1] Packham, A.E. et al. *Qualitative Evaluation of Selective Tests for Detection of Neospora Hughesi Antibodies in Serum and Cerebrospinal Fluid of Experimentally Infected Horses*. J Parasitol. 2002 Dec; 88(6): 1239-46. [2] Reed, S.M. et al. *Equine Protozoal Myeloencephalitis: An Updated Consensus Statement with a Focus on Parasite Biology, Diagnosis, Treatment, and Prevention*. J Vet Intern Med. 2016. [3] Duarte, P.C., et al. *Comparison of a serum indirect fluorescent antibody test with two Western blot tests for the diagnosis of equine protozoal myeloencephalitis*. J Vet Diagn Invest. 2003 Jan; 15(1): 8-13.