

## 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, Serum/CSF Ratio: Compare the serum/CSF ratio from the lab report to the Serum/CSF Ratio interpretation.

**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)

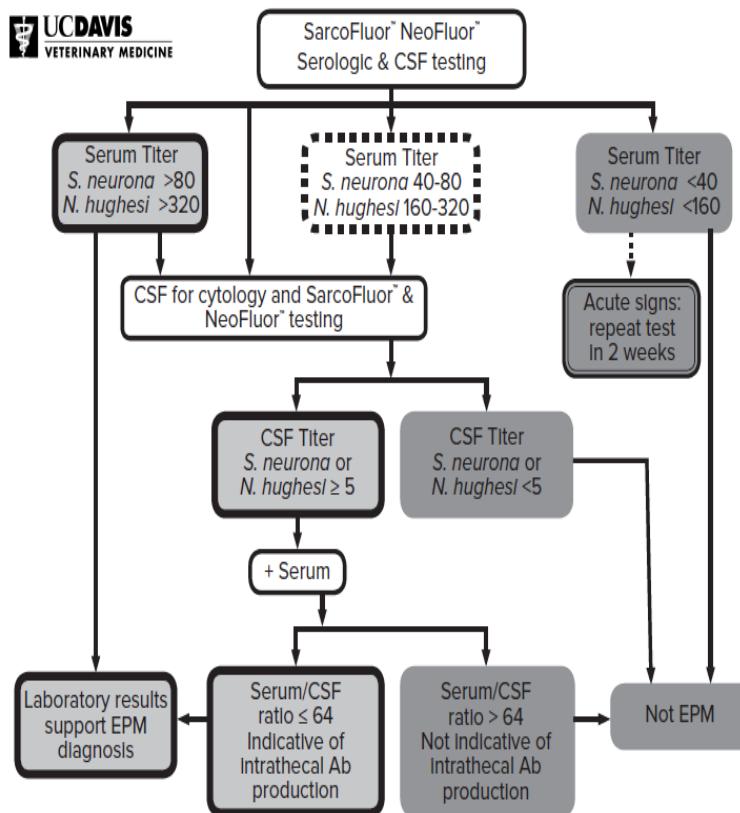
Based on 7 experimentally infected and 7 controls horses, sensitivity (Se) and specificity (Sp) of the serum NeoFluor™ IFAT at 77 days post-infection were 100% and 86%, respectively, at a 320 cut-off and 100% at a 640 cut-off. CSF sensitivity and specificity were 86% and 100%, respectively, at a cut-off 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.

## References

- [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.

## Diagnostic Flow Chart



**3**

## 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.