Interpretation of Equine pNF-H Testing

Values are only informative if elevated, as a normal value (<1 ng/mL) does not exclude disease.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Criteria</th>
<th>Specificity</th>
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</thead>
<tbody>
<tr>
<td>eNAD/EDM is VERY LIKELY</td>
<td>Serum pNF-H &gt; 1 ng/mL</td>
<td>98.8%</td>
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<tr>
<td>Neurologic disease is VERY LIKELY</td>
<td>CSF pNF-H &gt; 3 ng/mL (specificity 98% for eNAD/EDM <strong>OR</strong> cervical vertebral compressive myelopathy (CVCM))</td>
<td></td>
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</tbody>
</table>

**Serum**
- > 1 ng/mL in serum ➔ very likely eNAD/EDM (specificity 98.8%)
- < 1 ng/mL in serum ➔ cannot exclude eNAD/EDM (sensitivity only 12.5%)

**Serum + CSF**
- > 1 ng/mL in serum AND > 3 ng/mL in CSF = VERY LIKELY eNAD/EDM.
- < 1 ng/mL in serum AND > 3 ng/mL in CSF = very likely neurologic disease, but not possible to specify which (specificity 98%).
- < 1 ng/mL in serum AND < 3 ng/mL in CSF = cannot exclude neurologic disease (specificity only 33%).

The results of this biomarker test can be used to make informed decisions about horses with neurologic disease. In conjunction with cervical radiographs/myelogram and testing for equine protozoal myeloencephalitis (EPM), the use of pNF-H as a biomarker can provide useful prognostic information. Additionally, identification of eNAD/EDM-affected animals can facilitate selective breeding and targeted vitamin E supplementation in pregnant broodmares to avoid producing affected foals.

For additional questions regarding testing interpretation, please contact Dr. Carrie Finno at cjfinno@ucdavis.edu.

**Reference**