

October 25, 2021

IMMUNOLOGY

Neuromyelitis Optica Spectrum (AQP-4/MOG)**Date effective: November 1, 2021****Background Information:**

The Shared Health Immunology Laboratory at St Boniface Hospital is pleased to announce the introduction of the first of a series of autoantibody tests to aid in the diagnosis of autoimmune neurological disorders.

Our laboratory strives to provide efficient, reliable, and high-quality services that contribute to enhanced patient care. By providing this service in-house we can ensure testing is performed on fresher samples resulting in more accurate interpretation and reduce turn-around times to assist in earlier diagnosis and treatment.

Clinical Practice Change:

Previously referred to Mitogen Dx in Alberta, testing will now be performed by the Immunology Lab at St. Boniface Hospital using an indirect Immunofluorescence assay (IFA). Serum samples are initially screened at a 1:10 dilution utilizing slides coated with transfected cells. This test provides semiquantitative invitro determination of human antibodies of immunoglobulin classes IgG against aquaporin-4 (AQP-4) and myelin-oligodendrocyte glycoprotein (MOG) in patient samples to support the diagnosis of demyelinating diseases of the central nervous system.

Titers of antibodies against AQP-4 are significantly higher in serum than in CSF. In contrast to anti-NMDA receptor encephalitis, in which intrathecal synthesis of autoantibodies occurs, the anti-AQP-4 antibodies in CSF originate from the peripheral lymphatic tissue. They only enter the CSF when a critical serum-CSF gradient has been reached. Testing in CSF is not available.

*****Testing will be restricted to Neurologists or via prior approval*****

References/Resources:

Test: [Neuromyelitis Optica Spectrum \(AQP-4/MOG\)](#)
Sample: Serum 1.0 ml (Testing in CSF is not available)
Normal Range: <1:10 Titre (Negative)
Availability: Weekdays (5-7day TAT)
Requisition: <https://apps.sbgf.mb.ca/labmanual/test/loadDocumentPdf?documentId=2401>
The Immunology Autoimmune Test Requisition will reflect these changes in the next version.
Please request test Clinical Information/Diagnosis section of the requisition.

Patient Impact:

- TAT reduced from 14+ days

System Improvements:

- Improved sustainability
- Decreased operating costs

Contact Information:

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