Neurology

Autoimmune Neurology Antibody Comprehensive Panel with Reflexes

The more you know about autoimmune disease, the more you can do to treat it
Autoantibody testing services for autoimmune neurology disorders

When patients present with a range of neurological symptoms, it can be difficult to identify what is causing them and select the best treatment. In most cases, early detection and prompt therapy can improve patient outcomes.¹

Recent research has provided new insight into the causes of autoimmune diseases, making a specific diagnosis more possible than ever—one that can inform treatment.

The new Autoimmune Neurology Antibody Comprehensive Panel with Reflexes from Quest Diagnostics is built around a data-driven selection of neuronal-specific antibodies known to be associated with disease.

Comprehensive testing can:

- Identify idiopathic neurological disease in the absence of tumor
- Identify a malignancy early to optimize early treatment and help improve outcomes for both cancer and neurological disease
- Inform targeted immunosuppressive therapy for immunological disease
Knowing where to look first

Autoimmune neurological disorders can present a diagnostic challenge. Patients often manifest a variety of clinical syndromes that can be caused by one or more autoantibodies. To complicate the evaluation, a given autoantibody can exhibit a variety of clinical appearances and a given neurological presentation can often be caused by several different autoantibodies. The complexity of the neurological system and the absence of a specific clinical presentation make it difficult to know where to look first.

In a clinical study involving over 16,700 samples, approximately 50% tested positive for autoantibodies other than those included in the initial testing order.

With recent advances, comprehensive screening can accelerate the diagnostic process to initiate appropriate and often life-saving therapy as early as possible. By screening patients for multiple autoantibodies, the detection rate for diagnostically relevant autoantibodies increased by 87%, compared to single testing of requested analyte.
**Autoantibodies/analytes tested**

### Paraneoplastic

- Acetylcholine Receptor Ganglionic (Alpha 3) Antibody
- AGNA/SOX1
- Amphiphysin
- AMPAR1
- AMPAR2
- ANNA1 (Hu)
- ANNA2 (Ri)
- ANNA3
- CRMP5/CV2
- GABABR
- Ma2/Ta
- Myelin
- PCA1 (Yo)
- PCA2
- Recoverin
- Titin
- Zic4

### Paraneoplastic or non-paraneoplastic

- CASPR2
- CRMP5/CV2
- NMDAR1
- PCA-Tr (DNER)
- Voltage-Gated Calcium Channel (VGCC) Type P/Q Antibody
- Voltage-Gated Calcium Channel (VGCC) Type N Antibody

### Usually non-paraneoplastic

- Acetylcholine Receptor Binding Antibody
- Aquaporin 4 (NMO)
- DPPX Receptor Antibody
- GAD65
- LG1
- Voltage-Gated Potassium Channel (VGKC) Antibody
- Anti-Striated Muscle Antibody

---

For the Autoimmune Neurology Antibody Comprehensive Panel with Reflexes, we test each sample for 31 neuronal specific and non-specific autoantibodies, including antibodies to intraneural proteins and those against neuronal cell surface/synaptic proteins.

Our comprehensive testing methodologies maximize sensitivity by factoring in variables that acknowledge antibody presence dependent upon certain antigen targets or differences in presentation and context. The Autoimmune Neurology Antibody Comprehensive Panel with Reflexes includes fixed tissue immunofluorescence assay (IFA), transfected cell IFA via cell staining, western line blot analysis, and ELISA. In addition, serum concentration is calibrated specifically for each method.

**Target tissues and/or cells are specifically selected for optimal diagnostic detection:**

- Neurological tissues include primate (monkey) cerebellum, rat hippocampus, primate (monkey) sural nerve, and primate (monkey) nucleus caudatus.

- Other tissues are used to help define antibody immunofluorescent staining patterns: primate (monkey) intestine, primate (monkey) kidney, primate (monkey) testis, and primate (monkey) pancreas.

- The HEp-2 cells line is a human epithelial cell line used as the standard substrate to define antinuclear antibodies (ANA) (and anticytoplasmic antibodies) in the ANA assay.

Our combination of autoantibodies and testing methodologies combine to enable an Autoimmune Neurology Antibody Comprehensive Panel that improves sensitivity and expands specificity.

When it comes to autoimmune neurology, Quest Diagnostics provides an unparalleled level of insight, which can help you make more informed treatment decisions.

*Data on file, Quest Diagnostics*
### Autoimmune Neurology Antibody Comprehensive Panel with Reflexes, Serum

#### Always Performed

<table>
<thead>
<tr>
<th>Neurology Antibody Screen, IFA with Reflexes</th>
<th>Reflex Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - IFA Observation(s)</td>
<td>Neuronal Nuclear Antibody Type 3 (ANNA-3), Titer</td>
</tr>
<tr>
<td>2 - ANNA1 (Hu) Abs IFA</td>
<td>Purkinje Cell Cytoplasmic Antibody Type 2 (PCA-2), Titer</td>
</tr>
<tr>
<td>3 - ANNA2 (Ri) Abs IFA</td>
<td>Aquaporin-4 (AQP4) Antibody (IgG), CBA IFA, Titer</td>
</tr>
<tr>
<td>4 - ANNA3 Abs IFA</td>
<td>If Positive, Aquaporin-4 (AQP4) Antibody (IgG), CBA IFA</td>
</tr>
<tr>
<td>5 - PCA1 (Yo) Abs, IFA</td>
<td>MAG Antibody (IgM), Western Blot, CBA IFA</td>
</tr>
<tr>
<td>6 - PCA2 Abs, IFA</td>
<td>Myelin Antibody, IFA, Titer</td>
</tr>
<tr>
<td>7 - AGNA/SOX1 Abs, IFA</td>
<td>Purkinje Cell Cytoplasmic Antibody Type Tr (DNER), CBA IFA</td>
</tr>
<tr>
<td>8 - GAD65 Abs, IFA</td>
<td>PCA-Tr (DNER) Antibody, CBA IFA, Titer</td>
</tr>
<tr>
<td></td>
<td>If Positive, Aquaporin-4 (AQP4) Antibody (IgG), CBA IFA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neurology Antibody, Line Blot with Reflex</th>
<th>Reflex Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - ANNA1 (Hu) Abs LB</td>
<td>Neuronal Nuclear Antibody Type 3 (ANNA-3), Titer</td>
</tr>
<tr>
<td>2 - ANNA2- (Ri) Abs LB</td>
<td>Purkinje Cell Cytoplasmic Antibody Type 2 (PCA-2), Titer</td>
</tr>
<tr>
<td>3 - PCA1 (Yo) Abs LB</td>
<td>Aquaporin-4 (AQP4) Antibody (IgG), CBA IFA, Titer</td>
</tr>
<tr>
<td>4 - Ma2/Ta Abs LB</td>
<td>If Positive, Aquaporin-4 (AQP4) Antibody (IgG), CBA IFA</td>
</tr>
<tr>
<td>5 - CRMP5/CV2 Abs LB</td>
<td>MAG Antibody (IgM), Western Blot, CBA IFA</td>
</tr>
<tr>
<td>6 - Amphiphysin Abs LB</td>
<td>Myelin Antibody, IFA, Titer</td>
</tr>
<tr>
<td>7 - GAD65 Abs, IBA</td>
<td>Purkinje Cell Cytoplasmic Antibody Type Tr (DNER), CBA IFA</td>
</tr>
<tr>
<td></td>
<td>PCA-Tr (DNER) Antibody, CBA IFA, Titer</td>
</tr>
</tbody>
</table>

#### If Tissue IFA pattern suggests ANNA3

- If Tissue IFA pattern suggests ANNA3
- If Tissue IFA pattern suggests PCA2
- If Tissue IFA pattern suggests NMO-5-IgG
- If Tissue IFA pattern suggests Myelin

### Reflex Tests

- Neuronal Nuclear Antibody Type 3 (ANNA-3), Titer
- Purkinje Cell Cytoplasmic Antibody Type 2 (PCA-2), Titer
- Aquaporin-4 (AQP4) Antibody (IgG), CBA IFA, Titer
- MAG Antibody (IgM), Western Blot
- Myelin Antibody, IFA, Titer
- Purkinje Cell Cytoplasmic Antibody Type Tr (DNER), CBA IFA
- PCA-Tr (DNER) Antibody, CBA IFA, Titer

### Neurology Antibody, CBA IFA with Reflexes

- If NMDAR1 Abs CBA is positive
- If AMPAR1 Abs CBA is positive
- If AMPAR2 Abs CBA is positive
- If GABABR Abs CBA is positive
- If LGI1 Abs CBA is positive
- If CASPR2 Abs CBA is positive

### DPPX Receptor Antibody, CBA IFA (VGKC associated protein)

- If DPPX Abs CBA is positive

### Anti-Striated Muscle Abs Screen

- If Striated Muscle Antibodies is positive

### Acetylcholine Receptor Binding Antibody

- If Acetylcholine Receptor Binding Antibody is negative
- If Acetylcholine Receptor Binding Antibody is equivocal
- If Acetylcholine Receptor Binding Antibody is positive

### Acetylcholine Receptor Ganglionic (Alpha 3) Antibody

### Voltage-Gated Calcium Channel (VGCC) Type P/Q Antibody

### Voltage-Gated Calcium Channel (VGCC) Type N Antibody

### Voltage-Gated Potassium Channel (VGKC) Antibody
Test ordering information

<table>
<thead>
<tr>
<th>Test code</th>
<th>Test name</th>
<th>Specimen volume</th>
<th>Turnaround time</th>
</tr>
</thead>
<tbody>
<tr>
<td>93888</td>
<td>Autoimmune Neurology Antibody Comprehensive Panel with Reflexes, Serum</td>
<td>7mL (4.5mL minimum) serum</td>
<td>7-16 days</td>
</tr>
</tbody>
</table>

Vital information you need

- As new discoveries are made in neurology, Quest Diagnostics is at the forefront with the tests you need to make informed decisions—decisions that can lead to better outcomes.
- Our comprehensive menu of tests was built with your patients' needs in mind. We are committed to improving patient health through diagnostic insights.

Expert review and consultation

- Quest Diagnostics is a leader in autoantibody testing services. The Autoimmune Neurology Antibody Comprehensive Panel with Reflexes is supported by a team of PhDs, MDs, and other medical experts.
- We offer one-on-one consultations and professional reviews with our team of medical experts to support your decision-making.

For more information on our neurology testing services, call 1.866.MY.QUEST (1.866.697.8378) or visit QuestDiagnostics.com/Neurology

References

