

## Neuromuscular Autoantibodies: Classification & Features

| Antibody                        |                |                                |                       | Antigen  |   | Disease   |   |   |
|---------------------------------|----------------|--------------------------------|-----------------------|--|---|---|---|---|
| Class                           | Location       | Type                           | Pathogenic properties | Features                                       | Antigen Examples  | Neuromuscular Disease Examples  | Associations, Systemic  | Common treatments   |
| IgG                             | Serum          | Polyclonal                     | Often                 | Protein<br>Cell surface<br>membrane            | Receptors: AChRs<br>Muscle; Neuron<br>Ca <sup>++</sup> ion channels<br>K <sup>+</sup> channel complex   | <a href="#">Myasthenia gravis</a><br><a href="#">Autonomic PN</a><br><a href="#">LEMS</a><br><a href="#">Isaac's</a>  | Neoplasms<br><a href="#">Thymoma</a><br>Adeno Ca<br>Small cell lung                     | Corticosteroids<br>T-cell suppressants<br>IVIg<br>Plasma Exchange   |
| IgG                             | Serum          | Polyclonal                     | Possible              | Carbohydrate<br>Glycolipid                     | Gangliosides<br>GM1<br>GQ1b<br>GD1b   | <a href="#">AMAN</a><br><a href="#">Miller-Fisher</a><br><a href="#">Sensory, Acute</a>   | Infection,<br>Prodromal   | Disease often<br>monophasic   |
| IgG                             | Serum          | Polyclonal                     | Few                   | Protein<br>Intracellular                       | <a href="#">tRNA synthetases</a><br><a href="#">SRP</a><br>ANCA<br><a href="#">FGFR3</a>  | <a href="#">IMPP</a><br><a href="#">Polyomyopathy, immune</a><br><a href="#">Vasculitis</a><br>Neuropathy, Sensory  | Organ system<br>disease, or<br>Neoplasm, or<br>None                                     | Corticosteroids<br>T-cell suppressants<br>Rituximab   |
| IgG                             | Serum +<br>CSF | Polyclonal                     | No                    | Protein<br>Intracellular                       | <a href="#">Hu</a> (Neuron nuclei)<br><a href="#">CRMP5</a>   | Neuronopathy<br>Sensory; Autonomic<br>Polyneuropathy  | Neoplasms<br>Small cell lung<br>Gynecologic   | Screen for & Treat<br>associated Neoplasm   |
| <a href="#">IgG<sub>4</sub></a> | Serum          | Polyclonal                     | Possible              | Protein<br>Cell surface, or<br>Extracellular   | MuSK<br><a href="#">Neurofascins</a><br><a href="#">140</a><br><a href="#">155</a><br><a href="#">Contactin-1</a><br><a href="#">Lgi1</a><br><a href="#">Caspr2</a> | <a href="#">MG-MuSK</a><br>PN<br><a href="#">Sensory ataxia, subacute</a><br>Demyel +: <a href="#">Tremor</a> ; CNS<br><a href="#">Demyel PN</a> : IVIg resistant<br><a href="#">Encephalopathy ± PN</a><br><a href="#">Neuromyotonia</a> ; Autonomic | None  | Rituximab (q 1-6 mo)<br>Corticosteroids   |
| IgM                             | Serum          | Monoclonal<br>or<br>Polyclonal | Possible              | Carbohydrate<br>Glycolipid or<br>Glycoproteins | GM1<br>MAG<br>TS-HDS<br>GD1b  | <a href="#">Motor PN</a><br><a href="#">Demyelinating PN</a><br><a href="#">Sensory PN</a><br><a href="#">Sensory PN, Ataxic</a>  | Neoplasms<br><a href="#">M-protein</a>  | <a href="#">Rituximab</a> (IgM ↓)<br>Intravenous Ig<br>(Conduction block)<br><a href="#">Cyclophosphamide</a> |
|                                 |                |                                |                       | Protein  | <a href="#">Neurofascin-155</a>   | <a href="#">SM-PN</a> , Demyel + Tremor   | No  | Intravenous Ig  |
| IgM, IgG,<br>or IgA             | Serum          | Monoclonal                     | Some                  | Not identified                                 |   | Polyneuropathy  | <a href="#">POEMS</a><br><a href="#">Cryoglobulins</a><br><a href="#">Waldenström's</a> | Radiation; Chemo; Stem cell<br>Rituximab; Chemo   |