# DOTZEN
# GANGLIO PROFILE Ab

Immunodot assay for the determination of Ig(G+M) and/or IgG & IgM autoantibodies specific to gangliosides in human serum

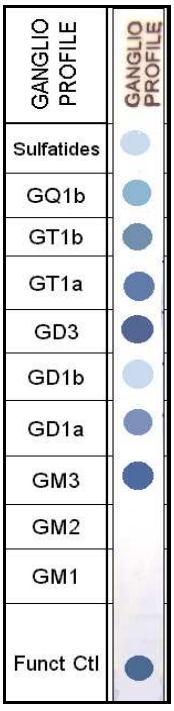
Dot Blot immunoassay (24 determinations)

DOTZEN Ganglio Profile Ab Code: L-ZA-24

## Getting better NEUROPATHIES diagnosis using the 10 most important epitopes

DOTZEN Ganglio Profile Ab is a useful help to :

- Confirm & establish a diagnosis of neuropathy
- Discriminate between neuropathies and other etiologies
- Identify and classify the anti-gangliosides antibodies




- Easy and efficient DOT technique
- Allows testing of the most important antigens simultaneously
  - 10 antigens spotted on PVDF membrane
  - Large strip allowing easy reading
  - Stability of coloration
- First step : screening combining the detection of IgG & IgM isotypes
- Second step : IgG and IgM identification (enzyme conjugates in the same kit)
- 1/505 final sera dilution

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## What are gangliosides ?

Gangliosides are glycosphingolipids with sialic acid. Gangliosides differ from one other according to the number and position of the hexoses and the residues of sialic acid . Molecular targets are thus numerous and varied, giving rise to the existence of numerous antibodies of different specificities. The nature, quantity and distribution of the diverse gangliosides in the nervous system vary. The motor nerves, for instance, are rich in GM1 and GD1b gangliosides while the sensory nerves mainly contain polysialogangliosides. There is a good correlation between the type of gangliosides recognized by the antibodies and the nature of the neurological impairment.

## Search for anti-ganglioside antibodies

Due to the diversity of anti-ganglioside antibodies, it is important to test serums on a large range of gangliosides and to determine which IgG and IgM isotypes they belong to. Immobilization of gangliosides on the membranes of polyvinylidene defluoride (PVDF) used in the DOT technique is easy and efficient. Immunodot is the preferred technique for the search for anti-gangliosides because it allows testing of serums with different gangliosides simultaneously and establishing a complete profile of antibodies, all in the same step. Prolonged incubations with gangliosides are necessary given the low affinity of anti-ganglioside antibodies. Anti-gangliosides, on the other hand, are antibodies which react best to cold, which implies that reactions must be carried out at the temperature of 4°C.

## Principle of the DOTZEN test

The **DOTZEN Ganglioside Profile Ab** is an in vitro qualitative determination kit for IgG or IgM anti-ganglioside antibodies in human serum for 10 types of gangliosides (see table) .

**In this way this immuno-dot has proved to be the most sensitive and specific method.**

Place the coated strips in the incubation tray channel and add 1 ml of sample diluent

*Incubate 10 min at 4°C on a rocking shaker*

Add 250 µl of Positive control and serum samples (prediluted 1/100)

*Incubate 2 hours at 4°C on a rocking shaker Wash 3X5 min with washing $*

Add 750 µl of Enzyme Conjugate

*Incubate 1 hour at 4°C on a rocking shaker Wash 3X5 min with washing $*

Add 750 µl of TMB substrate

*Incubate 5 min at RT on a rocking shaker*

Add 2 ml of desionised water to stop the reaction

*Incubate 3-5 min at RT* on a rocking shaker

Let air dry and read

## Interpretation of positive results*

| ANTIBODIES to | ISOTYPES | ASSOCIATED DISEASES |
|---|---|---|
| **GM1** (monospecific or + GD1b) | IgM | Multifocal Motor Neuropathy (MMN)<br>- Pure Motor, Assymetric, Distal, Upper Limbs, Areflexia, Fasciculations<br>- Motor Conduction Blocks frequent |
| **GM1** | IgM | Partial Epilepsia |
| **GM1** | IgG | Acute Motor Axonal Neuropathy (AMAN)<br>Acute paralysis, severe, inexcitability of motor nerves |
| **GM2** (monospecific) | IgM | Chronic Inflammatory Demyelinating Polyneuropathy |
| **GM2** | IgG | Acute Inflammatory Demyelinating Polyneuropathy<br>- Sensori-Motor, Flacid Paralysis, Areflexia<br>- frequent CMV Infections |
| **GM3** | IgM | Chronic Inflammatory, Sensori-motor Polyneuropathy<br>- Proximal > Distal, Symmetric, Areflexia |
| **GD1a** (monospecific) | IgM | Chronic Motor Neuropathy<br>- Distal, Asymmetric, Areflexia |
| **GD1a** | IgG | Subacute Severe Axonal Motor Neuropathy |
| **GD1b** (monospecific) | IgM | Relapsing Sensory Ataxic Neuropathy<br>- Chronic, Distal, Areflexia, Ataxia |
| **GD1b** | IgG | Acute Sensory Ataxic Neuropathy<br>- Distal Paresthesia, Areflexia, Ataxia |
| **GD3** | IgM | Chronic Ataxic Neuropathy |
| **GT1a** (monospecific) | IgG | Pharyngo-Cervical-Brachial Palsy<br>- Facial Palsy, Dysphagia, Respiratory failure |
| **GQ1b** (cross-reactivity with GT1a) | IgG | Miller-Fisher Syndrome (MFS)<br>- Extraocular muscle Paralysis, Ataxia,<br>- Areflexia<br>Bickerstaff's Brain Stem Encephalitis<br>- Coma, Ophtalmoparesis, Ataxia |
| **GQ1b** (+ GD1b, GD3, GT1b) | IgM | CANOMAD*<br>- Chronic Ataxic Neuropathy<br>- Monoclonal IgM Gammopathy<br>- Cold Agglutinins |
| **Sulfatide** | IgM | Sensory or Sensori-motor Polyneuropathy<br>- Distal, symmetric, Ataxia , Areflexia |

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**CANOMAD =Chronic Ataxic Neuropathy Ophtalmo- plegia M-protein Agglutin Demyelination

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