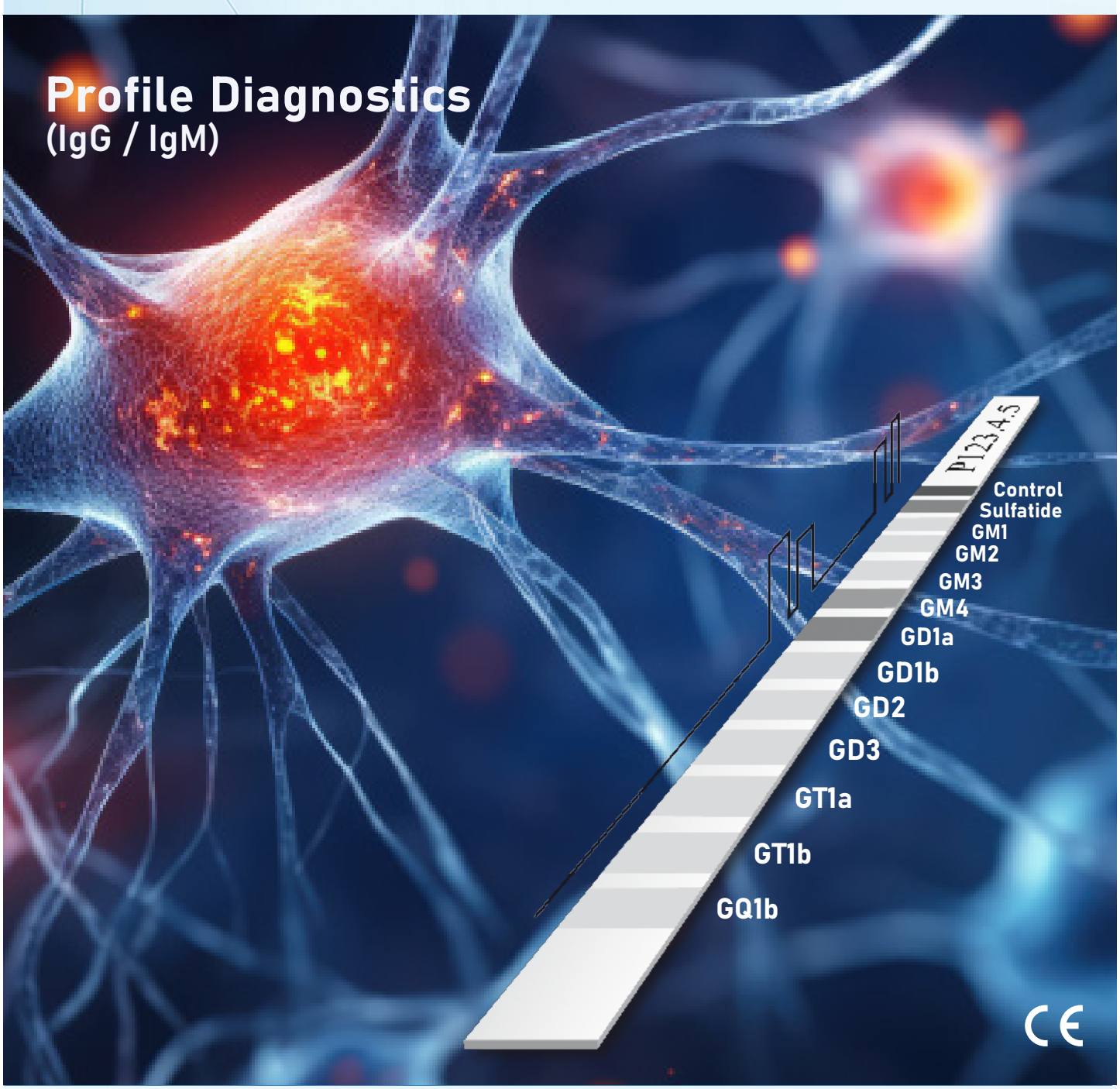
BLOT

Anti-Gangliosides

LINE Immunoassays for the qualitative determination of IgG and / or IgM antibodies against gangliosides in human serum

Generic Assays



Product Highlights

- Serological marker for autoimmune polyneuropathies
- Diagnostic efficiency through profile diagnostics with 12 antigens
- Best Performance on the market

Anti-Gangliosides

LINE Immunoassays for the qualitative determination of IgG and / or IgM antibodies against gangliosides in human serum

Autoimmune neuropathies

Autoimmune neuropathies of the peripheral nervous system are characterized by numerous clinical symptoms which, however, do not differ from those of other neuropathies. Neuropathies of autoimmune origin (13% of all neuropathies) can therefore be misdiagnosed as idiopathic and thus incorrectly treated. The determination of anti-ganglioside antibodies can therefore contribute to the diagnosis of this group of diseases.

	Sulf	GM1	GM2	GM3	GM4	GD1a	GD1b	GD2	GD3	GT1a	GT1b	GQ1b
GBS /AIDP		IgG			IgM	IgG	IgG				IgG	
GBS/AMAN & AMSAN	IgM	IgG			IgM	IgG	IgG				IgG	
GBS after CMV-Infection		IgM	IgM			IgM	IgM					
GBS with ataxia							IgG			IgG		IgG
GBS with ONS		IgG				IgG				IgG		IgG
GBS with ophthalmoplegia										IgG		IgG
MFS					IgM		IgG		IgG	IgG	IgG	IgG
Bickerstaff encephalitis										IgG		IgG
CANOMAD				IgM		IgM	IgM	IgM	IgM	IgM	IgM	IgM
MMN		IgM	IgM	IgM	IgM	IgM	IgM					
CIDP	IgM	IgM	IgM	IgM		IgM	IgM					
MN with gammopathy	IgM	IgM					IgM					

AIDP - acute inflammatoric demyelinating polyneuropathy, AMAN - acute motor axonal neuropathy, AMSAN - acute motor and sensory axonal neuropathy, CANOMAD -chronic ataxic neuropathy ophthalmoplegia IgM paraprotein cold agglutinins disialosyl antibodies, CIDP - chronic inflammatoric demyelinating polyneuropathy, CMV -cytomegalovirus, GBS - Guillain-Barré syndrome, MFS - Miller Fisher syndrome, MMN - multifocal motor neuropathy with conduction blocks, MN - motor neuropathy, ONS -acute paralysis of the oropharyngeal neck and shoulder muscles. Adapted from Conrad *et al.* 2011.

An Example for Immunpathogenesis - GBS/AMAN

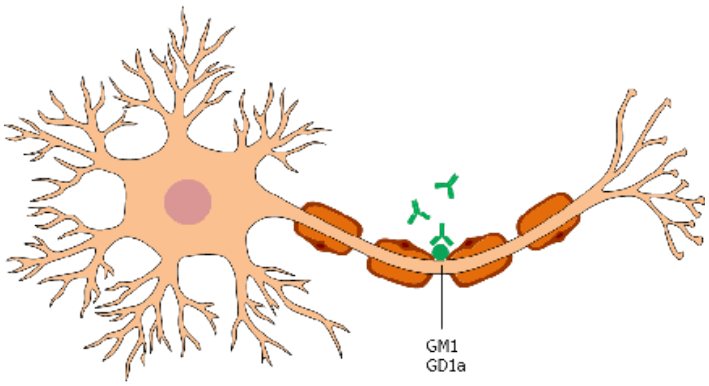
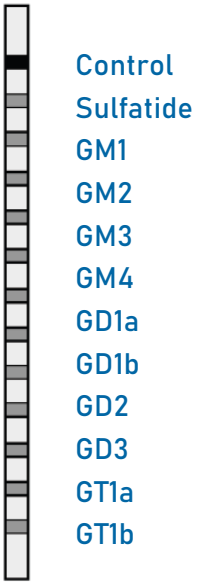


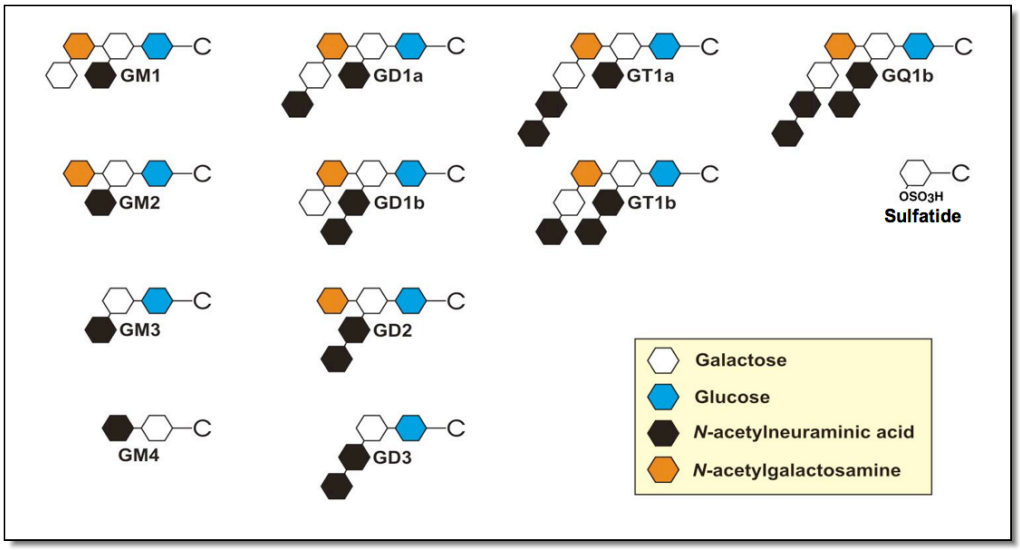
Figure adapted from Yuki & Hartung 2012

Gangliosides GM1 and GD1a are strongly expressed at the nodes of Ranvier of myelinated axons, where the voltage-gated sodium (Nav) channels are localized. IgG anti-GM1 or anti-GD1a autoantibodies bind to the nodal axolemma, leading to membrane attack complex (MAC) formation. This results in the disappearance of Nav clusters and the detachment of paranodal myelin, which can lead to nerveconduction failure and muscle weakness. Axonal degeneration may follow at a later stage. Macrophages subsequently invade from the nodes into the periaxonal space, scavenging the injured axons.

LINE with the highest number of antigens (12)



Control
Sulfatide
GM1
GM2
GM3
GM4
GD1a
GD1b
GD2
GD3
GT1a
GT1b



100% Sensitivity and Specifcity

Immune mediated peripheral neuropathies	Number of samples	Anti-ganglioside autoantibody profiles detected by in house Immundot	Number of positive samples using minimal positivity criteria*				
			Ih T	T1	T2	T3	T4
AMAN and AMSAN	6	IgG antibodies against GMI> GD1b	6	6	3	1	6
Miller Fisher Syndrome	4	IgG antibodies against GQ1b	4	4	2	3	3
GBS with ophthalmoplegia	1	IgG antibodies against GD1b, GQ1b	1	1	0	0	0
GBS with ophthalmoplegia	1	IgG antibodies against GD1a, GD1b, GT1b, GQ1b	1	1	0	0	1
GBS post CMV infection	2	IgM antibodies against GM2	2	2	2	2	2
Axonal motor GBS post CJ infection	1	IgG and IgM antibodies against GM1 and GD1b	1	1	0	0	1
Total of acute PN	15		15	15	7	6	13
Canomad syndrome	12	M-IgM antibodies against GD1b, GD3, GT1b, GQ1b	12	12	6	5	7
Chronic motor neuropathy	3	M-IgM antibodies against GM1 and GD1b	3	3	2	1	3
Chronic motor neuropathy with lymphoma	1	M-IgM antibodies against GD1a and GT1b	1	1	1	1	1
Chronic sensory neuropathy	1	M-IgM antibodies against sulfatides> GD1b>GM1	1	1	1	1	1
MMN	1	IgM antibodies against GM1 > GD1b	1	1	0	0	1
Total of chronic PN	18		18	18	10	8	13
Total of PN	33		33	33	17	14	26

Comparison with other commercial assays

(Caudie *et al.* 2013)

Specific antibody profiles obtained in 15 patients with acute peripheral neuropathies and 18 patients with chronic peripheral neuropathies as obtained by in-house immunodot assay and by 4 commercial assays (see table).

CJ - Campylobacter jejuni, M-IgM - Monoclonal IgM antibodies, PN - peripheral neuropathies, IhT-In-house Test, T - Test, see left page for other abbreviations.

* The 5 immunodominant gangliosides present on each test are GM1, GM2, GD1a, GD1b, and GQ1b.

Sensitivity

IgG:	**T1 = GA**	**100 % (15/15)**
	T2 = Zentech	47 % (7/15)
	T3 = Euroimmun	40 % (6/15)
	T4 = Bühlmann	87 % (13/15)
IgM	**T1 = GA 1**	**100 % (18/18)**
	T2 = Zentech	55 % (10/18)
	T3 = Euroimmun	44 % (8/18)
	T4 = Bühlmann	72 % (13/18)

Specificity

100 % for all tests
(10 non-autoimmune neuropathies)

Automated

Manual

Anti Gangliosid LINE for

DotDiver2.0

Automated Immunoblot Analyzer

- Automated LINE / Dot immunoblot benchtop analyzer with small footprint
- User-friendly software
- Simultaneous performance of up to 24 different tests
- Ready-to-use reagents and test strips
- Automated barcode identification of test strips and cartridges
- Integrated drying of processed test strips
- Evaluation of processed test strips
- Export of results in digital file format or as print out
- LIS connectivity
- Low-maintenance, no liquid handling

Anti-Gangliosid Dot

Classic version with manual procressing and visual or automated evaluation through scan software.

Contact

GA Generic Assays GmbH

Ludwig-Erhard-Ring 3
15827 Blankenfelde-Mahlow OT Dahlewitz
Germany

Phone +49 33708 9286 0
Fax +49 33708 4417 25

info@genericassays.com
www.genericassays.com

Order Information

Anti-Gangliosid Dot (24 x 12 Determinations)		**REF 5003**
DotDiver Anti-Gangliosid IgG (24 x 12 Determinations)		**REF 50381**
DotDiver Anti-Gangliosid IgM (20 x 12 Determinations)		**REF 50391**
DotDiver Anti-Gangliosid screen (20 x 12 Determinations)		**REF 50301**

Version 005/05.2025