

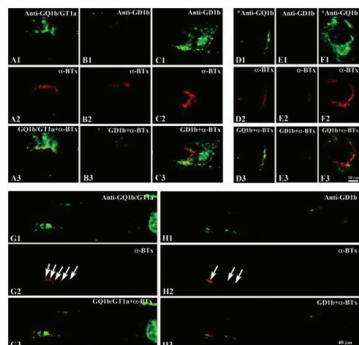
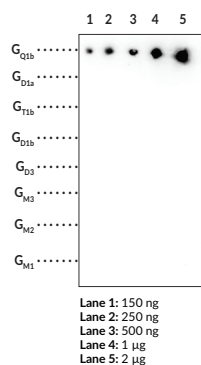
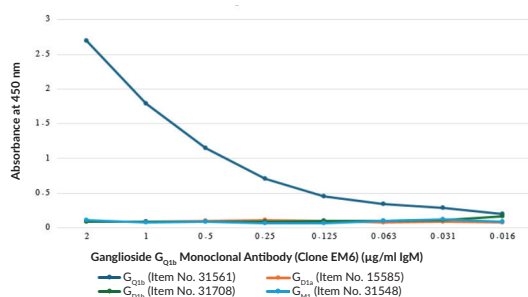
PRODUCT INFORMATION

Ganglioside G_{Q1b} Monoclonal Antibody (Clone EM6) Item No. 38291

Overview and Properties

Contents:	This vial contains 100 µg of ammonium sulfate purified mouse IgM.
Synonyms:	G _{Q1b} , Tetrasialoganglioside G _{Q1b}
Immunogen:	Ganglioside G _{Q1b} liposomes
Cross Reactivity:	Ganglioside G _{Q1b} , Ganglioside G _{T1a} , Some cross reactivity to sulfatides; (-) Other gangliosides
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	EM6
Host:	Mouse
Isotype:	IgM
Applications:	Dot blot, ELISA, Immunofluorescence (IF), and TLC immunostaining; the recommended starting dilution for ELISA and dot blot is 1:500, 1:10-1:50 for IF, and 1:500 for TLC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



A-F, En plaque and G, H, engrapple endplates identified by α-bungarotoxin labeling and stained with Ganglioside G_{Q1b} Monoclonal Antibody (Clone EM6) (Item No. 38291).^{4,5}

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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PRODUCT INFORMATION



Description

Ganglioside G_{Q1b} is a sialic acid-containing glycosphingolipid that has been found in myelin of the oculomotor nerves and dorsal root ganglia, as well as neuromuscular spindle fibers.^{1,2} It is found on the plasma membrane, where it is anchored by the ceramide moiety with the sialylated oligosaccharide on the extracellular side.¹ In axonal myelin, it helps to stabilize the paranodal region in the node of Ranvier.² Ganglioside G_{Q1b} is similar in shape to lipo-oligosaccharides (LOS) on the membrane of certain pathogens, including the bacterium *C. jejuni*. Due to this similarity, autoantibodies against ganglioside G_{Q1b} can be formed during infection with *C. jejuni*. Autoantibodies against ganglioside G_{Q1b} are found in the cerebrospinal fluid in a majority of patients during the acute phase of Miller-Fisher syndrome, a rare variant of Guillain-Barré syndrome characterized by eye movement abnormalities, impaired coordination, and tendon reflex loss.¹⁻³ Cayman's Ganglioside G_{Q1b} Monoclonal Antibody (Clone EM6) can be used for dot blot, ELISA, immunofluorescence (IF), and TLC immunostaining applications.

References

1. Goodyear, C.S., O'Hanlon, G.M., Plomp, J.J., *et al.* Monoclonal antibodies raised against Guillain-Barré syndrome-associated *Campylobacter jejuni* lipopolysaccharides react with neuronal gangliosides and paralyze muscle-nerve preparations. *J. Clin. Invest.* **104**(6), 697-708 (1999).
2. Noioso, C.M., Bevilacqua, L., Acerra, G.M., *et al.* Miller Fisher syndrome: An updated narrative review. *Front. Neurol.* **14**, 1250774 (2023).
3. Halstead, S.K., Humphreys, P.D., Goodfellow, J.A., *et al.* Complement inhibition abrogates nerve terminal injury in Miller Fisher syndrome. *Ann. Neurol.* **58**(2), 203-210 (2005).
4. Liu, J.-X., Willison, H.J., and Pedrosa-Domellöf, F. Immunolocalization of GQ1b and related gangliosides in human extraocular neuromuscular junctions and muscle spindles. *Invest. Ophthalmol. Vis. Sci.* **50**(7), 3226-3232 (2009).
5. Boffey, J., Nicholl, D., Wagner, E.R., *et al.* Innate murine B cells produce anti-disialosyl antibodies reactive with *Campylobacter jejuni* LPS and gangliosides that are polyreactive and encoded by a restricted set of unmutated V genes. *J. Neuroimmunol.* **152**(1-2), 98-111 (2004).

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