

PRODUCT INFORMATION



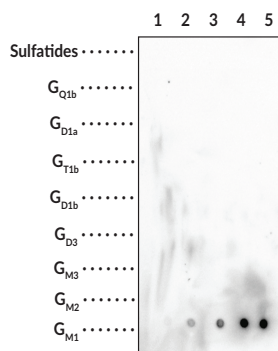
Ganglioside G_{M1} Monoclonal Antibody (Clone DG1)

Item No. 38289

Overview and Properties

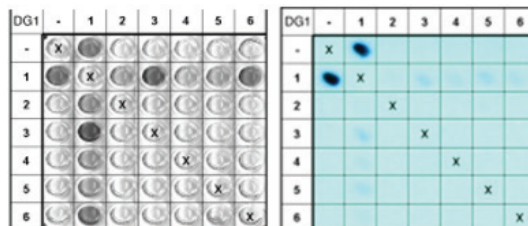
Contents: This vial contains 100 µg of protein G-purified monoclonal antibody.
Synonyms: G_{M1}, Monosialoganglioside G_{M1}
Immunogen: *C. jejuni* OH4384
Cross Reactivity: (+) Ganglioside G_{M1}; (-) Ganglioside G_{M2}, Ganglioside G_{M3}, Ganglioside G_{D1a}, Ganglioside G_{D1b}, Ganglioside G_{D3}
Species Reactivity: (+) Species independent
Form: Liquid
Storage: -20°C (as supplied)
Stability: ≥3 years
Storage Buffer: PBS, pH 7.2, containing 50% glycerol and 0.02% sodium azide
Clone: DG1
Host: Mouse
Isotype: IgG2b
Applications: Dot blot, ELISA, and Immunohistochemistry (IHC); the recommended starting dilution for ELISA is 1:1,000-2,000, 1:500-1,000 for Dot blot, and 1:50 for IHC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

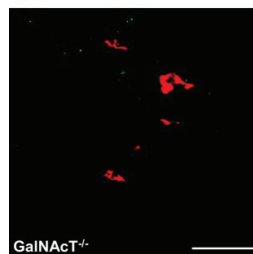
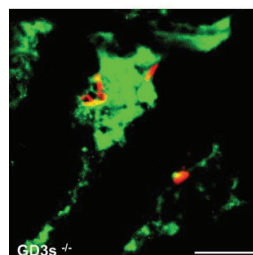
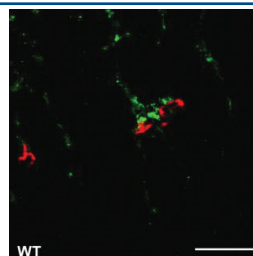


Lane 1: 10 ng
 Lane 2: 25 ng
 Lane 3: 50 ng
 Lane 4: 100 ng
 Lane 5: 150 ng

Dot blot against gangliosides using
 Ganglioside G_{M1} Monoclonal Antibody.¹



Reactivity of anti-G_{M1} mAbs DG1 to ganglioside complexes containing G_{M1} in solid phase.¹



DG1 topical immunostaining of frozen diaphragm sections from WT, GD3s^{-/-}, and GalNAcT^{-/-} mice.¹

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
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Description

Ganglioside G_{M1} is a monosialylated ganglioside and the prototypic ganglioside for those containing one sialic acid residue.^{2,3} It is found in a large variety of cells, including immune cells and neurons, and is enriched in lipid rafts in the cell membrane.⁴ It associates with growth factor receptors, including TrkA, TrkB, and the GDNF receptor complex containing Ret and GFR α , and is required for TrkA expression on the cell surface. Ganglioside G_{M1} interacts with other proteins to increase calcium influx, affecting various calcium-dependent processes, including inducing neuronal outgrowth during differentiation. Ganglioside G_{M1} acts as a receptor for cholera toxin, which binds to its oligosaccharide group, facilitating toxin cell entry into epithelial cells of the jejunum.^{5,6} Similarly, it is bound by the heat-labile enterotoxin from *E. coli* in the pathogenesis of traveler's diarrhea.⁷ Ganglioside G_{M1} sensitizes inactivated T cells to TNF- α -induced apoptosis and induces apoptosis of activated T cells even in the absence of TNF- α .⁸ Ganglioside G_{M1} is found at higher levels on T cells isolated from patients with renal cell carcinoma (RCC) compared with T cells from patients without cancer. Levels of ganglioside G_{M1} are decreased in the substantia nigra pars compacta in postmortem brain tissues from patients with Parkinson's disease.⁴ Ganglioside G_{M1} gangliosidosis, characterized by a deficiency in ganglioside G_{M1} - β -galactosidase, the enzyme that degrades ganglioside G_{M1} , leads to accumulation of the gangliosides G_{M1} and G_{A1} in neurons and can be fatal in infants.² Cayman's Ganglioside G_{M1} Monoclonal Antibody (Clone DG1) can be used for dot blot, ELISA, and immunohistochemistry (IHC) applications.

References

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