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Produktinformation

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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

PRODUCT INFORMATION

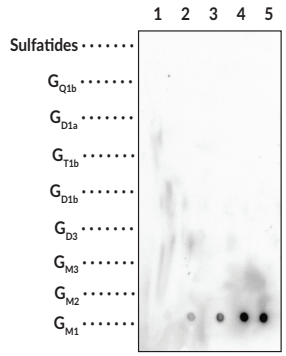
Ganglioside G_{M1} Monoclonal Antibody (Clone DG1)

Item No. 38289

Overview and Properties

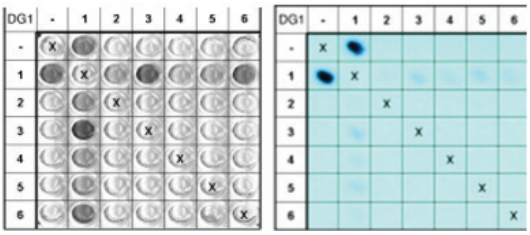
Contents:	This vial contains 100 µg of protein G-purified monoclonal antibody.
Synonyms:	G_{M1}, Monosialoganglioside G_{M1}
Immunogen:	*C. jejuni* OH4384
Cross Reactivity:	(+) Ganglioside G_{M1}; (-) Ganglioside G_{M2}, Ganglioside G_{M3}, Ganglioside G_{D1a}, Ganglioside G_{D1B}, Ganglioside G_{D3}
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

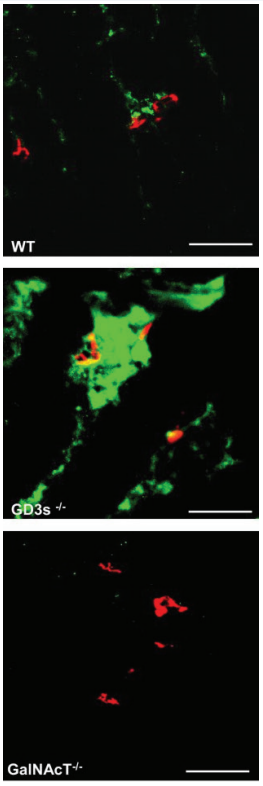


Lane 1: 10 ng
Lane 2: 25 ng
Lane 3: 50 ng
Lane 4: 100 ng
Lane 5: 150 ng

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]

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

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 GFRα, 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

1. Greenshields, K.N., Halstead, S.K., Zitman, F.M.P., *et al.* The neuropathic potential of anti-GM1 autoantibodies is regulated by the local glycolipid environment in mice. *J. Clin. Invest.* **119(3)**, 595-610 (2009).
2. Kolter, T. Ganglioside biochemistry. ISRN Biochem. 506160 (2012).
3. Mocchetti, I. Exogenous gangliosides, neuronal plasticity and repair, and the neurotrophins. *Cell Mol. Life Sci.* **62(19-20)**, 2283-2294 (2005).
4. Ledeen, R.W. and Wu, G. The multi-tasked life of G_{M1} ganglioside, a true factotum of nature. *Trends Biochem. Sci.* **40(7)**, 407-418 (2015).
5. Turnbull, W.B., Precious, B.L., and Homans, S.W. Dissecting the cholera toxin-ganglioside G_{M1} interaction by isothermal titration calorimetry. *J. Am. Chem. Soc.* **126(4)**, 1047-1054 (2004).
6. Blank, N., Schiller, M., Krienke, S., *et al.* Cholera toxin binds to lipid rafts but has a limited specificity for ganglioside G_{M1}. *Immunol. Cell Biol.* **85(5)**, 378-382 (2007).
7. Minke, W.E., Roach, C., Hol, W.G., *et al.* Structure-based exploration of the ganglioside G_{M1} binding sites of *Escherichia coli* heat-labile enterotoxin and cholera toxin for the discovery of receptor antagonists. *Biochemistry* **38(18)**, 5684-5692 (1999).
8. Das, T., Sa, G., Hilston, C., *et al.* G_{M1} and tumor necrosis factor-α, overexpressed in renal cell carcinoma, synergize to induce T-cell apoptosis. *Cancer Res.* **68(6)**, 2014-2023 (2008).

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WWW.CAYMANCHEM.COM