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PRODUCT INFORMATION

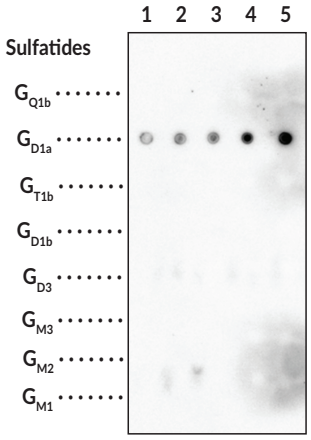
Ganglioside G_{D1a} Monoclonal Antibody (Clone TBG3)

Item No. 38296

Overview and Properties

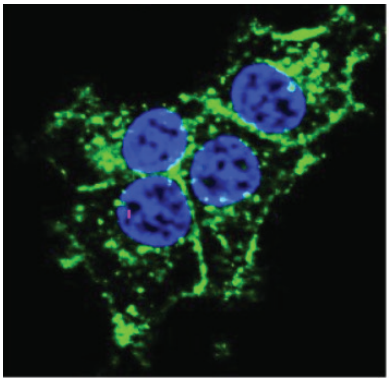
Contents:	This vial contains 100 µg of protein A-purified monoclonal antibody.
Synonyms:	Disialoganglioside G_{D1a}, Ganglioside B_1, Ganglioside G_3
Immunogen:	G_{D1a}
Cross Reactivity:	(+) Ganglioside G_{D1a}; (-) Ganglioside G_{D1b}, Ganglioside G_{D3}, Ganglioside G_{M1}, Ganglioside G_{M2}, Ganglioside G_{M3}, Ganglioside G_{Q1b}, Sulfatides
Species Reactivity:	Species Independent
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:	TBG3
Host:	Mouse
Isotype:	IgG3
Applications:	Dot blot, ELISA, Immunofluorescence (IF), and Thin Layer Chromatography (TLC) Immunostaining; the recommended starting dilution for dot blot is 1:500-1:1,000, 1:1,000 for ELISA, 1:10-1:50 for IF, and 1:500 for TLC immunostaining. 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: 200 ng

Dot blot against gangliosides using Ganglioside G_{D1a} Monoclonal Antibody (Clone TBG3).[1]



PC12 cells labeled with Ganglioside G_{D1a} Monoclonal Antibody (Clone TBG3) were incubated at 37°C for 30 min.[1]

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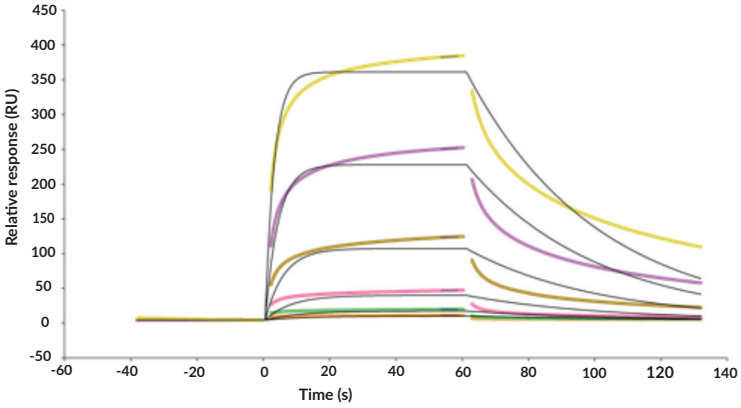
PRODUCT INFORMATION



Representative image: Ganglioside GD_{1a} Specifically Binds Ganglioside GD_{1a} Monoclonal Antibody (Clone TBG3). Ganglioside GD_{1a} Monoclonal Antibody (Clone TBG3) was immobilized on a Series S Sensor Chip CM5 and SPR analysis was used to determine Ganglioside GD_{1a} (bovine) (ammonium salt) (Item No. 31591) binding affinity on a Biacore 8K, using multi cycle kinetics with six concentrations of Ganglioside GD_{1a}.

Description

Ganglioside G_{D1a} (Item Nos. 31591 | 15585 | 31707) is a sialic acid-containing glycosphingolipid that has been found in brain, erythrocytes, bone marrow, testis, spleen, and liver, as well as in serum lipoproteins.[2,3] It is formed by the transfer of N-acetylneuraminic acid (Neu5Ac; Item No. 16091) to the precursor ganglioside G_{M1a} by CMP-N-acetylneuraminate-β-galactosamide-α-2,3-sialyltransferase 2 (ST3Gal-II).[4] It functions as a toll-like receptor 2 (TLR2) co-receptor in isolated human monocytes, colocalizing with TLR2 and enhancing the binding of type IIb *E. coli* enterotoxin (LT-IIb-B_5) to TLR2.[5] Ganglioside G_{D1a} also mediates polyomavirus entry into host cells.[6] Ganglioside G_{D1a} is shed into the tumor microenvironment from the surface of tumor cells, where it influences tumor-host cell interactions to promote tumor cell proliferation, invasion, and metastasis, as well as increases VEGF-induced proliferation of human umbilical vein endothelial cells (HUVECs). A monoclonal antibody targeting ganglioside G_{D1a} and ganglioside G_{T1b} (Item Nos. 31712 | 15588 | 31592) inhibits axon regeneration in a mouse model of sciatic nerve crush-induced peripheral nervous system injury.[7] Ganglioside G_{D1a} accumulates in the CNS of patients with galactosialidosis, a lysosomal storage disorder.[8] Cayman's Ganglioside G_{D1a} Monoclonal Antibody (Clone TBG3) binds to Ganglioside G_{D1a} (bovine brain) (Item No. 15585) with k_a, k_d, and K_D values of 26,300 $M^{-1}s^{-1}$, 0.0342 s^{-1}, and 1.36 µM, respectively, as determined by surface plasmon resonance (SPR). It can be used for dot blot, ELISA, immunofluorescence (IF), and TLC immunostaining applications.

References

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