

GD3 Synthase (B-11): sc-390123

BACKGROUND

GD3 Synthase (GD3S, SIAT8, ST8Sial, ST8 α -N-acetyl-neuraminidase α -2,8-sialyltransferase 1) is a type II membrane protein that catalyzes the transfer of sialic acid from CMP-sialic acid to GM3 to produce gangliosides GD3 and GT3. Gangliosides are membrane-bound glycosphingolipids containing sialic acid. Ganglioside GD3 is known to be important for cell adhesion and growth of cultured malignant cells. GD3 Synthase is found in the Golgi apparatus and is a member of glycosyltransferase family 29. GD3 Synthase can down-regulate MMP-9 promoter activity in response to TNF- α by association with NF κ B and activation protein-1 (AP-1) sites in the MMP-9 promoter. GD3 Synthase has an apoptotic effect on ECV304 cells through downregulation of Bcl-2 expression via dephosphorylation of Akt and CREB.

REFERENCES

- Martina, J.A., et al. 1998. Influence of N-glycosylation and N-glycan trimming on the activity and intracellular traffic of GD3 Synthase. *J. Biol. Chem.* 273: 3725-3731.
- Kawai, H., et al. 1998. Embryonic stem cells with a disrupted GD3 Synthase gene undergo neuronal differentiation in the absence of β -series gangliosides. *J. Biol. Chem.* 273: 19634-19638.
- Birkle, S., et al. 2000. Down-regulation of GD3 ganglioside and its O-acetylated derivative by stable transfection with antisense vector against GD3 Synthase gene expression in hamster melanoma cells: effects on cellular growth, melanogenesis, and dendricity. *J. Neurochem.* 74: 547-554.

CHROMOSOMAL LOCATION

Genetic locus: ST8SIA1 (human) mapping to 12p12.1; St8sia1 (mouse) mapping to 6 G3.

SOURCE

GD3 Synthase (B-11) is a mouse monoclonal antibody raised against amino acids 65-140 mapping near the N-terminus of GD3 Synthase of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GD3 Synthase (B-11) is available conjugated to agarose (sc-390123 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390123 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390123 PE), fluorescein (sc-390123 FITC), Alexa Fluor[®] 488 (sc-390123 AF488), Alexa Fluor[®] 546 (sc-390123 AF546), Alexa Fluor[®] 594 (sc-390123 AF594) or Alexa Fluor[®] 647 (sc-390123 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390123 AF680) or Alexa Fluor[®] 790 (sc-390123 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

Store at 4[°] C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

GD3 Synthase (B-11) is recommended for detection of GD3 Synthase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GD3 Synthase siRNA (h): sc-44586, GD3 Synthase siRNA (m): sc-44587, GD3 Synthase shRNA Plasmid (h): sc-44586-SH, GD3 Synthase shRNA Plasmid (m): sc-44587-SH, GD3 Synthase shRNA (h) Lentiviral Particles: sc-44586-V and GD3 Synthase shRNA (m) Lentiviral Particles: sc-44587-V.

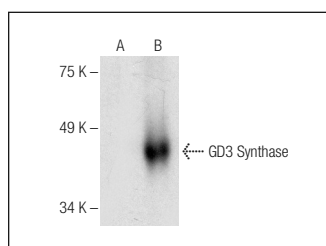
Molecular Weight of GD3 Synthase: 50 kDa.

Positive Controls: GD3 Synthase (m): 293T Lysate: sc-120460 or KNRK whole cell lysate: sc-2214.

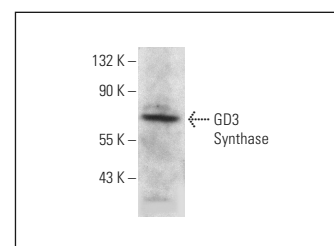
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



GD3 Synthase (B-11): sc-390123. Western blot analysis of GD3 Synthase expression in non-transfected: sc-117752 (A) and mouse GD3 Synthase transfected: sc-120460 (B) 293T whole cell lysates.



GD3 Synthase (B-11): sc-390123. Western blot analysis of GD3 Synthase expression in KNRK whole cell lysate.

SELECT PRODUCT CITATIONS

- Takeuchi, R., et al. 2019. TNF α -signal and cAMP-mediated signals oppositely regulate melanoma-associated ganglioside GD3 Synthase gene in human melanocytes. *Sci. Rep.* 9: 14740.

RESEARCH USE

For research use only, not for use in diagnostic procedures.