

GD3 Synthase (m): 293T Lysate: sc-120460

BACKGROUND

GD3 Synthase (GD3S, SIAT8, ST8Sial, ST8 α -N-acetyl-neuraminide 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

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2. Kawai, H., et al. 1998. Embryonic stem cells with a disrupted GD3 Synthase gene undergo neuronal differentiation in the absence of b-series gangliosides. *J. Biol. Chem.* 273: 19634-19638.
3. Birkle, S., et al. 2000. Downregulation 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.
4. Fukumoto, S., et al. 2000. GD3 Synthase gene expression in PC12 cells results in the continuous activation of TrkA and ERK 1/2 and enhanced proliferation. *J. Biol. Chem.* 275: 5832-5838.
5. Satake, H., et al. 2003. Genes modulated by expression of GD3 synthase in Chinese hamster ovary cells. Evidence that the Tis21 gene is involved in the induction of GD3 9-O-acetylation. *J. Biol. Chem.* 278: 7942-7948.
6. Furukawa, K., et al. 2003. Isolation and functional analysis of the melanoma specific promoter region of human GD3 synthase gene. *Biochim. Biophys. Acta* 1627: 71-78.
7. Moon, S.K., et al. 2004. Disialoganglioside (GD3) synthase gene expression suppresses vascular smooth muscle cell responses via the inhibition of ERK 1/2 phosphorylation, cell cycle progression, and matrix metalloproteinase-9 expression. *J. Biol. Chem.* 279: 33063-33070.
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CHROMOSOMAL LOCATION

Genetic locus: St8sia1 (mouse) mapping to 6 G3.

PRODUCT

GD3 Synthase (m): 293T Lysate represents a lysate of mouse GD3 Synthase transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

GD3 Synthase (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive GD3 Synthase antibodies. Recommended use: 10-20 μ l per lane.

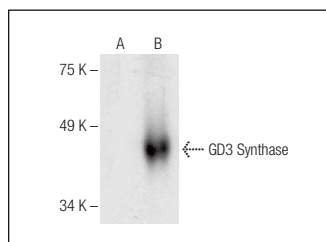
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

GD3 Synthase (B-11): sc-390123 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse GD3 Synthase expression in GD3 Synthase transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-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.

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.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.