SANTA CRUZ BIOTECHNOLOGY, INC.

O-Ac GD3 (7H2): sc-56170

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GD3 Synthase (GD3S, SIAT8, ST8SiaI, 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 Ganglioside GD3 and Ganglioside GT3. Gangliosides are membrane-bound glycosphingolipids containing sialic acid. Ganglioside GD3 is 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 downregulate MMP-9 promoter activity in response to TNFα by association with NFκB 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. O-acetylated GD3 Ganglioside (O-Ac GD3) is a cell surface molecule of some neural, neural crest and renal cells.

REFERENCES

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2. Sjoberg, E.R. and Varki, A. 1993. Kinetic and spatial interrelationships between ganglioside glycosyltransferases and O-acetyltransferase(s) in human melanoma cells. J. Biol. Chem. 268: 10185-10196.
3. Portoukalian, J., David, M.J., Gain, P. and Richard, M. 1993. Shedding of GD2 Ganglioside in patients with retinoblastoma. Int. J. Cancer 53: 948-951.
4. Reivinen, J., Holthöfer, H. and Miettinen, A. 1995. O-acetyl GD3 Ganglioside in human peripheral blood T lymphocytes. Int. Immunol. 6: 1409-1416.
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6. Zeng, G., Gao, L., Li, D.D., Tokuda, A. and Yu, R.K. 1998. Permanent alteration of endogenous gangliosides in neuroblastoma cells by stable transfection with antisense vector. Ann. N.Y. Acad. Sci. 845: 431.
7. Chapman, P.B., Wu, D., Ragupathi, G., Lu, S., Williams, L., Hwu, W.J., Johnson, D. and Livingston, P.O. 2004. Sequential immunization of melanoma patients with GD3 ganglioside vaccine and anti-idiotypic monoclonal antibody that mimics GD3 Ganglioside. Clin. Cancer Res. 10: 4717-4723.
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SOURCE

O-Ac GD3 (7H2) is a mouse monoclonal antibody raised against O-Ac GD3 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

O-Ac GD3 (7H2) is available conjugated to agarose (sc-56170 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-56170 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56170 PE), fluorescein (sc-56170 FITC), Alexa Fluor® 488 (sc-56170 AF488), Alexa Fluor® 546 (sc-56170 AF546), Alexa Fluor® 594 (sc-56170 AF594) or Alexa Fluor® 647 (sc-56170 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56170 AF680) or Alexa Fluor® 790 (sc-56170 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

O-Ac GD3 (7H2) is recommended for detection of O-Ac GD3 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

1. Favia, A., Salvatori, L., Nanni, S., Iwamoto-Stohl, L.K., Valente, S., Mai, A., Scagnoli, F., Fontanella, R.A., Totta, P., Nasi, S. and Illi, B. 2019. The protein arginine methyltransferases 1 and 5 affect Myc properties in glioblastoma stem cells. Sci. Rep. 9: 15925.
2. Cavdarli, S., Yamakawa, N., Clarisse, C., Aoki, K., Brysbaert, G., Le Doussal, J.M., Delannoy, P., Guérardel, Y. and Groux-Degroote, S. 2020. Profiling of O-acetylated gangliosides expressed in neuroectoderm derived cells. Int. J. Mol. Sci. 21 pii: E370.

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.