SANTA CRUZ BIOTECHNOLOGY, INC.

St3Gal-I (N-15): sc-26742

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell type-specific expression of unique carbohydrate structures on cell surface glycoproteins and glycolipids provides information relevant to cell-cell interactions in developing and adult organisms. Sialyltransferases contribute to the diversity of carbohydrate structures through their attachment of sialic acid in various terminal positions on glycolipid and on glycoprotein (N-linked and O-linked) carbohydrate groups. The α2,3 sialyltransferase (St3Gal I), also known as SIAT4-A and SI4A, is a type II membrane protein that catalyzes the transfer of sialic acid from CMP-sialic acid to galactose-containing substrates. St3Gal-I is normally found in the Golgi but can be proteolytically processed to a soluble form. St3Gal-I is elevated in primary breast carcinomas, brain tissues (matsuhashi03). St3Gal-I controls $CD8^+$ T lymphocyte homeostasis by modulating O-glycan biosynthesis. St3Gal-I is a major inhibitor of core2 O-glycan formation on CD43 and CD45 in naive T cells.

REFERENCES

1. Burchell, J., Poulsom, R., Hanby, A., Whitehouse, C., Cooper, L., Clausen, H., Miles, D. and Taylor-Papadimitriou, J.1999. An α2,3 sialyltransferase (St3Gal-I) is elevated in primary breast carcinomas. Glycobiology 9: 1307-1311.
2. Priatel, J.J., Chui, D., Hiraoka, N., Simmons, C.J., Richardson, K.B., Page, D.M., Fukuda, M., Varki, N.M. and Marth, J.D. 2000. The St3Gal-I sialyltransferase controls $CD8^+$ T lymphocyte homeostasis by modulating O-glycan biosynthesis. Immunity 12: 273-283.
3. Grabie, N., Delfs, M.W., Lim, Y.C., Westrich, J.R., Luscinskas, F.W. and Lichtman, A.H. 2002. β-galactoside α2,3-sialyltransferase-I gene expression during Th2 but not Th1 differentiation: implications for core2-glycan formation on cell surface proteins. Eur. J. Immunol. 32: 2766-2772.
4. Matsuhashi, H., Horii, Y. and Kato, K. 2003. Region-specific and epileptogenic-dependent expression of six subtypes of α2,3-sialyltransferase in the adult mouse brain. J. Neurochem. 84: 53-66.
5. LocusLink Report (LocusID: 6482).http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: ST3GAL1 (human) mapping to 8q24.22; St3gal1 (mouse) mapping to 15 D2.

SOURCE

St3Gal-I (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of St3Gal-I of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26742 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

St3Gal-I (N-15) is recommended for detection of St3Gal-I of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 St3Gal-I siRNA (h): sc-106571, St3Gal-I siRNA (m): sc-153859, St3Gal-I shRNA Plasmid (h): sc-106571-SH, St3Gal-I shRNA Plasmid (m): sc-153859-SH, St3Gal-I shRNA (h) Lentiviral Particles: sc-106571-V and St3Gal-I shRNA (m) Lentiviral Particles: sc-153859-V.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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