

Sialyltransferase 7C (P-20): sc-68807

BACKGROUND

Sialyltransferases transfer sialic acid to nascent oligosaccharides and are specific for a particular sugar substrate. Usually, sialyltransferases add sialic acid to the terminal portions of the sialylated glycolipids (gangliosides) or to the N- or O-linked sugar chains of glycoproteins. Sialyltransferase 7C (ST6GalNAc III, ST6GALNAC3) is a 305 amino acid member of the glycosyltransferase 29 family. Sialyltransferase 7C is involved in the biosynthesis of ganglioside GD1A from GM1B. Sialyltransferase 7C accomplishes this by transferring CMP-NeuAc with an α -2,6-linkage to GalNAc residue on NeuAc- α -2,3-Gal- β -1,3-GalNAc of glycoproteins and glycolipids. Sialyltransferase 7C has been determined to be more efficient at modifying glycolipids than glycoproteins. Sialyltransferase 7C is a single-pass type II membrane protein found on the membrane of the Golgi apparatus.

REFERENCES

1. Takashima, S., et al. 2000. Comparative analysis of the genomic structures and promoter activities of mouse *Sia α 2,3Gal β 1,3GalNAc GalNAc α 2*, 6-sialyltransferase genes (ST6GalNAc III and IV): characterization of their Sp1 binding sites. *J. Biochem.* 127: 399-409.
2. Clark, H.F., et al. 2003. The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment. *Genome Res.* 13: 2265-2270.
3. Lin, T.W., et al. 2005. Stachybotrydial, a potent inhibitor of fucosyltransferase and sialyltransferase. *Biochem. Biophys. Res. Commun.* 331: 953-957.
4. Plath, C., et al. 2006. Assaying sialyltransferase activity with surface plasmon resonance. *Chembiochem.* 7: 1226-1230.
5. Seko, A., et al. 2009. Polyoxometalates as effective inhibitors for sialyl- and sulfotransferases. *J. Inorg. Biochem.* 103: 1061-1066.
6. Oh, T.J., et al. 2011. Enzymatic synthesis of vancomycin derivatives using galactosyltransferase and sialyltransferase. *J. Antibiot.* 64: 103-109.
7. Bouanene, H., et al. 2011. Correlation between heterogeneous expression of Sialyltransferases and MUC16 in ovarian tumor tissues. *Onkologie* 34: 165-169.
8. Suzuki, O., et al. 2011. Adult onset cardiac dilatation in a transgenic mouse line with Gal 1,3GalNAc 2,3-sialyltransferase II (ST3Gal-II) transgenes: a new model for dilated cardiomyopathy. *Proc. Jpn. Acad., Ser. B, Phys. Biol. Sci.* 87: 550-562.

CHROMOSOMAL LOCATION

Genetic locus: ST6GALNAC3 (human) mapping to 1p31.1; St6galnac3 (mouse) mapping to 3 H3.

SOURCE

Sialyltransferase 7C (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Sialyltransferase 7C of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-68807 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sialyltransferase 7C (P-20) is recommended for detection of Sialyltransferase 7C 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).

Sialyltransferase 7C (P-20) is also recommended for detection of Sialyltransferase 7C in additional species, including equine, canine and avian.

Suitable for use as control antibody for Sialyltransferase 7C siRNA (h): sc-63018, Sialyltransferase 7C siRNA (m): sc-63019, Sialyltransferase 7C shRNA Plasmid (h): sc-63018-SH, Sialyltransferase 7C shRNA Plasmid (m): sc-63019-SH, Sialyltransferase 7C shRNA (h) Lentiviral Particles: sc-63018-V and Sialyltransferase 7C shRNA (m) Lentiviral Particles: sc-63019-V.

Molecular Weight of Sialyltransferase 7C: 35 kDa.

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.

RESEARCH USE

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

PROTOCOLS

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