

# Sialyltransferase 7C (I-17): sc-68806

## 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  $\alpha$ -2,6-linkage to GalNAc residue on NeuAc- $\alpha$ -2,3-Gal- $\beta$ -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 $\alpha$ 2,3Gal $\beta$ 1,3GalNAc GalNAc $\alpha$ 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.

## 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.

## SOURCE

Sialyltransferase 7C (I-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of sialyltransferase 7C of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-68806 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Sialyltransferase 7C (I-17) 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 (I-17) is also recommended for detection of Sialyltransferase 7C in additional species, including equine, canine, porcine 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.