SANTA CRUZ BIOTECHNOLOGY, INC.

Sialyltransferase 7A (C-20): sc-68799

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sialyltransferase 7A, also known as ST6GALNAC1 (ST6 (α-N-acetyl-neuraminyl-2,3-β-galactosyl-1,3)-N-acetylgalactosaminide α-2,6-sialyltransferase 1), SIAT7A or STYI, is a 600 amino acid single-pass type II membrane protein that localizes to the Golgi and belongs to the glycosyltransferase 29 family. Involved in the process of protein modification, Sialyltransferase 7A functions to transfer a sialic acid, specifically N-acetylneuraminic acid (NeuAc), to O-linked GalNAc residues and, via its catalytic activity, plays a role in tumor development and metastasis. The gene encoding Sialyltransferase 7A maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Ikehara, Y., et al. 1999. Cloning and expression of a human gene encoding an N-acetylgalactosamine-α2,6-sialyltransferase (ST6GalNAc I): a candidate for synthesis of cancer-associated sialyl-Tn antigens. Glycobiology 9: 1213-1224.
2. Lee, Y.C., et al. 1999. Molecular cloning and functional expression of two members of mouse NeuAcα2,3Galβ1,3GalNAc GalNAcα2,6-sialyltransferase family, ST6GalNAc III and IV. J. Biol. Chem. 274: 11958-11967.
3. Julien, S., et al. 2001. Expression of sialyl-Tn antigen in breast cancer cells transfected with the human CMP-Neu5Ac: GalNAc α2,6-sialyltransferase (ST6GalNac I) cDNA. Glycoconj. J. 18: 883-893.

CHROMOSOMAL LOCATION

Genetic locus: ST6GALNAC1 (human) mapping to 17q25.1; St6galnac1 (mouse) mapping to 11 E2.

SOURCE

Sialyltransferase 7A (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Sialyltransferase 7A 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-68799 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Sialyltransferase 7A (C-20) is recommended for detection of Sialyltransferase 7A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 7A (C-20) is also recommended for detection of Sialyltransferase 7A in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Sialyltransferase 7A siRNA (h): sc-63014, Sialyltransferase 7A shRNA Plasmid (h): sc-63014-SH and Sialyltransferase 7A shRNA (h) Lentiviral Particles: sc-63014-V.

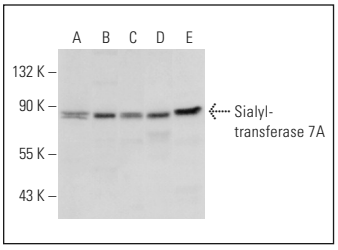
Molecular Weight of Sialyltransferase 7A: 69 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Sialyltransferase 7A (C-20): sc-68799. Western blot analysis of Sialyltransferase 7A expression in human tonsil tissue extract (**A**) and HeLa (**B**), Jurkat (**C**), K-562 (**D**) and NIH/3T3 (**E**) whole cell lysates.

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.