SANTA CRUZ BIOTECHNOLOGY, INC.

Sialyltransferase 7B siRNA (m): sc-63017

BACKGROUND

Sialyltransferase 7B, also known as ST6GALNAC2, STHM, SIAT7, SAITL1 or SIAT7B, is a 374 amino acid single-pass type II protein that localizes to the membrane of the Golgi apparatus. Expressed in lung, kidney, heart, placenta and skeletal muscle, Sialyltransferase 7B functions to catalyze the addition of sialic acid residues to the non-reducing ends of glycoconjugates, an event that is important for protein targeting, bacterial adhesion and cell-cell interactions. Sialyltransferase 7B expression is downregulated in prostate and breast cancer cells, implying a role in growth inhibition. Human Sialyltransferase 7B, which shares 75% sequence identity with its mouse counterpart, is encoded by a gene that maps to chromosome 17q25.1.

REFERENCES

1. Samyn-Petit, B., et al. 2000. Molecular cloning and functional expression of human ST6GalNAc II. Molecular expression in various human cultured cells. Biochim. Biophys. Acta 1474: 201-211.
2. Sotiropoulou, G., et al. 2002. Identification and functional characterization of a human GalNAc α2,6-sialyltransferase with altered expression in breast cancer. Mol. Med. 8: 42-55.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610137. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Colland, F., et al. 2004. Functional proteomics mapping of a human signaling pathway. Genome Res. 14: 1324-1332.
5. Li, G.S., et al. 2007. Variants of the ST6GALNAC2 promoter influence transcriptional activity and contribute to genetic susceptibility to IgA nephropathy. Hum. Mutat. 28: 950-957.
6. Raska, M., et al. 2007. Identification and characterization of CMP-NeuAc:GalNAc-IgA$_1$ α2,6-sialyltransferase in IgA$_1$-producing cells. J. Mol. Biol. 369: 69-78.

CHROMOSOMAL LOCATION

Genetic locus: St6galnac2 (mouse) mapping to 11 E2.

PRODUCT

Sialyltransferase 7B siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Sialyltransferase 7B shRNA Plasmid (m): sc-63017-SH and Sialyltransferase 7B shRNA (m) Lentiviral Particles: sc-63017-V as alternate gene silencing products.

For independent verification of Sialyltransferase 7B (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-63017A, sc-63017B and sc-63017C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Sialyltransferase 7B siRNA (m) is recommended for the inhibition of Sialyltransferase 7B expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Sialyltransferase 7B gene expression knockdown using RT-PCR Primer: Sialyltransferase 7B (m)-PR: sc-63017-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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