SANTA CRUZ BIOTECHNOLOGY, INC.

ST8Sia VI siRNA (h): sc-90460

BACKGROUND

Sialyltransferases are responsible for the transfer of sialic acid, a negatively charged acidic sugar, from its common nucleotide sugar donor to carbohydrate groups of glycoproteins and glycolipids where it then forms sialylglycoconjugates to influence a number of biological processes. Twenty mammalian sialyltransferase family members have been characterized to date. ST8Sia VI (ST8 α-N-acetyl-neuraminide α-2,8-sialyltransferase 6), also known as α-2,8-sialyltransferase 8F variant 3, SIA8F or SIAT8F (sialyltransferase 8F), is a 398 amino acid Golgi apparatus single-pass type II membrane protein belonging to the glycosyltransferase 29 family that preferentially sialylates O-glycans over N-glycans or glycolipids. While ubiquitously expressed, ST8Sia VI is found at highest levels in kidney and is encoded by a gene mapping to human chromosome 10p12.33.

REFERENCES

1. Takashima, S., et al. 2002. Molecular cloning and expression of a sixth type of α-2,8-sialyltransferase (ST8Sia VI) that sialylates O-glycans. J. Biol. Chem. 277: 24030-24038.
2. Teintenier-Lelièvre, M., et al. 2005. Molecular cloning and expression of a human hST8Sia VI (α-2,8-sialyltransferase) responsible for the synthesis of the diSia motif on O-glycosylproteins. Biochem. J. 392: 665-674.
3. Harduin-Lepers, A., et al. 2005. The animal sialyltransferases and sialyltransferase-related genes: a phylogenetic approach. Glycobiology 15: 805-817.
4. Avril, T., et al. 2006. Probing the cis interactions of the inhibitory receptor Siglec-7 with α-2,8-disialylated ligands on natural killer cells and other leukocytes using glycan-specific antibodies and by analysis of α-2,8-sialyltransferase gene expression. J. Leukoc. Biol. 80: 787-796.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610139. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Takashima, S. 2008. Characterization of mouse sialyltransferase genes: their evolution and diversity. Biosci. Biotechnol. Biochem. 72: 1155-1167.

CHROMOSOMAL LOCATION

Genetic locus: ST8SIA6 (human) mapping to 10p12.33.

PRODUCT

ST8Sia VI siRNA (h) 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 ST8Sia VI shRNA Plasmid (h): sc-90460-SH and ST8Sia VI shRNA (h) Lentiviral Particles: sc-90460-V as alternate gene silencing products.

For independent verification of ST8Sia VI (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-90460A, sc-90460B and sc-90460C.

RESEARCH USE

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

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

ST8Sia VI siRNA (h) is recommended for the inhibition of ST8Sia VI expression in human 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.

GENE EXPRESSION MONITORING

ST8Sia VI (E-3): sc-514631 is recommended as a control antibody for monitoring of ST8Sia VI gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ST8Sia VI gene expression knockdown using RT-PCR Primer: ST8Sia VI (h)-PR: sc-90460-PR (20 µl, 559 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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