SANTA CRUZ BIOTECHNOLOGY, INC.

CHST7 siRNA (m): sc-62121

BACKGROUND

Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs, and xenobiotic compounds. These enzymes differ in their tissue distributions and substrate specificities, although the gene structure (number and length of exons) is similar among family members. CHST7 (carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 7), also known as C6ST-2 (chondroitin 6-sulfotransferase 2), Gn6st-4 (N-acetylglucosamine 6-O-sulfotransferase 4) or GST-5 (Galactose/N-acetylglucosamine/N-acetylglucosamine 6-O-sulfotransferase 5), is a 486 amino acid protein that belongs to the sulfotransferase 1 family and Gal/GlcNAc/GalNAc subfamily. A single-pass type II membrane protein of the Golgi apparatus membrane, CHST7 is widely expressed and is known to catalyze the transfer of sulfate to position 6 of non-reducing N-acetylglucosamine (GlcNAc) residues.

REFERENCES

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2. Kitagawa, H., et al. 2000. Molecular cloning and expression of a novel chondroitin 6-O-sulfotransferase. J. Biol. Chem. 275: 21075-21080.
3. Bhakta, S., et al. 2000. Sulfation of N-acetylglucosamine by chondroitin 6-sulfotransferase 2 (GST-5). J. Biol. Chem. 275: 40226-40234.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number. 300375. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Chen, L., et al. 2004. Role of the carboxyl-terminal region in the activity of N-acetylglucosamine 6-o-sulfotransferase-1. J. Biochem. 136: 659-664.
6. Tjew, S.L., et al. 2005. Expression of N-acetylglucosamine 6-O-sulfotransferases (GlcNAc6STs)-1 and -4 in human monocytes: GlcNAc6ST-1 is implicated in the generation of the 6-sulfo N-acetyllactosamine/Lewis x epitope on CD44 and is induced by TNF-α. Glycobiology 15: 7C-13C.
7. Zhang, L., et al. 2006. A microdeletion in Xp11.3 accounts for co-segregation of retinitis pigmentosa and mental retardation in a large kindred. Am. J. Med. Genet. A 140: 349-357.

CHROMOSOMAL LOCATION

Genetic locus: Chst7 (mouse) mapping to X A1.3.

PRODUCT

CHST7 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 CHST7 shRNA Plasmid (m): sc-62121-SH and CHST7 shRNA (m) Lentiviral Particles: sc-62121-V as alternate gene silencing products.

For independent verification of CHST7 (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-62121A, sc-62121B and sc-62121C.

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

CHST7 siRNA (m) is recommended for the inhibition of CHST7 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 CHST7 gene expression knockdown using RT-PCR Primer: CHST7 (m)-PR: sc-62121-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.

PROTOCOLS

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