SANTA CRUZ BIOTECHNOLOGY, INC.

CHST9 siRNA (m): sc-62123

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. Carbohydrate sulfotransferase 9 (CHST9), also referred to as GalNAc-4-ST2, catalyzes the transfer of sulfate groups to position four of non-reducing terminal N-acetylgalactosamine (GalNAc) residues of N-glycans and O-glycans. Human CHST9 is strongly expressed in the trachea and murine CHST9 is predominantly expressed in the pituitary. CHST9 belongs to the HNK-1ST family of sulfotransferases and is highly homologous to CHST8. CHST8 and CHST9 have different substrate specificity but both are capable of transfering sulfate to the glycoproteins Lutropin, thyrotropin, Tenascin-R, carbonic anhydratase-VI and proopiomelanocortin.

REFERENCES

1. Kang, H.G., et al. 2001. Molecular cloning and expression of an N-acetylgalactosamine-4-O-sulfotransferase that transfers sulfate to terminal and non-terminal β 1,4-linked N-acetylgalactosamine. J. Biol. Chem. 276: 10861-10869.
2. Evers, M.R., et al. 2001. Molecular cloning and characterization of a dermatan-specific N-acetylgalactosamine 4-O-sulfotransferase. J. Biol. Chem. 276: 36344-36353.
3. Hiraoka, N., et al. 2001. Molecular cloning and expression of two distinct human N-acetylgalactosamine 4-O-sulfotransferases that transfer sulfate to GalNAc β 1→4GlcNAc β 1→R in both N- and O-glycans. Glycobiology 11: 495-504.
4. Kang, H.G., et al. 2002. Molecular cloning and characterization of chondroitin-4-O-sulfotransferase-3. A novel member of the HNK-1 family of sulfotransferases. J. Biol. Chem. 277: 34766-34772.
5. Baenziger, J.U. 2003. Glycoprotein hormone GalNAc-4-sulphotransferase. Biochem. Soc. Trans. 31: 326-330.
6. Okuda, T., et al. 2003. Mouse N-acetylgalactosamine 4-sulfotransferases-1 and -2. Molecular cloning, expression, chromosomal mapping and detection of their activity with GalNAc β1-4GlcNAc β1-octyl. J. Biochem. 134: 111-120.

CHROMOSOMAL LOCATION

Genetic locus: Chst9 (mouse) mapping to 18 A1.

PRODUCT

CHST9 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 CHST9 shRNA Plasmid (m): sc-62123-SH and CHST9 shRNA (m) Lentiviral Particles: sc-62123-V as alternate gene silencing products.

For independent verification of CHST9 (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-62123A, sc-62123B and sc-62123C.

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

CHST9 siRNA (m) is recommended for the inhibition of CHST9 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 CHST9 gene expression knockdown using RT-PCR Primer: CHST9 (m)-PR: sc-62123-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.