SANTA CRUZ BIOTECHNOLOGY, INC.

CHST2 siRNA (m): sc-62117

BACKGROUND

CHST2 (carbohydrate sulfotransferase 2), also known as GST-2 (galactose/N-acetylglucosamine/N-acetylglucosamine 6-O-sulfotransferase 2), Gn6ST-1 (N-acetylglucosamine 6-O-sulfotransferase 1) or C6ST, is a 530 amino acid single-pass type II membrane protein that belongs to the sulfotransferase 1 family and Gal/GlcNAc/GalNAc subfamily. Localizing to the Golgi apparatus, CHST2 is widely expressed, with high levels found in bone marrow, peripheral blood leukocytes, spleen, brain, spinal cord, ovary and placenta. Acting as an N-acetylglucosamine-6-O-sulfotransferase, CHST2 catalyzes the transfer of sulfate from 3'-phosphoadenosine 5'-phosphosulfate (PAPS) to position 6 of a nonreducing N-acetylglucosamine (GlcNAc) residue. CHST2 is present as a homodimer and is up-regulated upon cytokine activation. The gene encoding CHST2, which exists as two isoforms due to alternative splicing, maps to human chromosome 3q24 and mouse chromosome 9 E3.3.

REFERENCES

1. Uchimura, K., et al. 1998. Human N-acetylglucosamine-6-O-sulfotransferase involved in the biosynthesis of 6-sulfo sialyl Lewis X: molecular cloning, chromosomal mapping, and expression in various organs and tumor cells. J. Biochem. 124: 670-678.
2. Uchimura, K., et al. 1998. Molecular cloning and characterization of an N-acetylglucosamine-6-O-sulfotransferase. J. Biol. Chem. 273: 22577-22583.
3. Li, X., et al. 1999. CHST1 and CHST2 sulfotransferases expressed by human vascular endothelial cells: cDNA cloning, expression, and chromosomal localization. Genomics 55: 345-347.
4. Li, X., et al. 2001. CHST1 and CHST2 sulfotransferase expression by vascular endothelial cells regulates shear-resistant leukocyte rolling via L-selectin. J. Leukoc. Biol. 69: 565-574.
5. Iida, A., et al. 2002. Catalog of 77 single-nucleotide polymorphisms (SNPs) in the carbohydrate sulfotransferase 1 (CHST1) and carbohydrate sulfotransferase 3 (CHST3) genes. J. Hum. Genet. 47: 14-19.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: Chst2 (mouse) mapping to 9 E3.3.

PRODUCT

CHST2 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 CHST2 shRNA Plasmid (m): sc-62117-SH and CHST2 shRNA (m) Lentiviral Particles: sc-62117-V as alternate gene silencing products.

For independent verification of CHST2 (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-62117A, sc-62117B and sc-62117C.

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

CHST2 siRNA (m) is recommended for the inhibition of CHST2 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 CHST2 gene expression knockdown using RT-PCR Primer: CHST2 (m)-PR: sc-62117-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.