SANTA CRUZ BIOTECHNOLOGY, INC.

CHSY3 siRNA (m): sc-142337

BACKGROUND

Chondroitin sulfate synthases (CHSYs) synthesize chondroitin sulfate, a glycosaminoglycan expressed on the surface of most cells and in extracellular matrices. Glycosaminoglycan chains are covalently linked to various of core protein families and regulate many biologic processes, including extracellular matrix deposition, cell proliferation and recognition, and morphogenesis. The CHSY family includes CHSY1, CHSY2 and CHSY3. CHSY1 and CHSY3 display both glucuronyltransferase and N-acetylgalactosaminyltransferase activities, while CHSY2 is required for chondroitin polymerizing activity. The 882-amino acid CHSY3 protein localizes to the Golgi apparatus and is detected at low levels in the brain, cerebral cortex, uterus and small intestine. It contains 1 predicted transmembrane domain, 3 predicted N-glycosylation sites, several glycosyltransferase motifs, and 2 DXD motifs, which are conserved in many glycosyltransferases. CHSY3 shares 62% sequence homology with CHSY1.

REFERENCES

1. Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA research: an international journal for rapid publication of reports on genes and genomes. DNA Res. 6: 63-70.
2. Kitagawa, H., et al. 2001. Molecular cloning and expression of a human chondroitin synthase. J. Biol. Chem. 276: 38721-38726.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608183. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Mizuguchi, S., et al. 2003. Chondroitin proteoglycans are involved in cell division of *Caenorhabditis elegans*. Nature 423: 443-448.
5. Kitagawa, H., et al. 2003. Molecular cloning of a chondroitin polymerizing factor that cooperates with chondroitin synthase for chondroitin polymerization. J. Biol. Chem. 278: 23666-23671.
6. Yada, T., et al. 2003. Chondroitin sulfate synthase-2. Molecular cloning and characterization of a novel human glycosyltransferase homologous to chondroitin sulfate glucuronyltransferase, which has dual enzymatic activities. J. Biol. Chem. 278: 30235-30247.

CHROMOSOMAL LOCATION

Genetic locus: Chsy3 (mouse) mapping to 18 D3.

PRODUCT

CHSY3 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 CHSY3 shRNA Plasmid (m): sc-142337-SH and CHSY3 shRNA (m) Lentiviral Particles: sc-142337-V as alternate gene silencing products.

For independent verification of CHSY3 (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-142337A, sc-142337B and sc-142337C.

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

CHSY3 siRNA (m) is recommended for the inhibition of CHSY3 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 CHSY3 gene expression knockdown using RT-PCR Primer: CHSY3 (m)-PR: sc-142337-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.