SANTA CRUZ BIOTECHNOLOGY, INC.

CST siRNA (m): sc-142606

BACKGROUND

CST, also known as SLC35A1 (solute carrier family 35 member A1), CMP-sialic acid transporter (CMP-Sia-Tr) or CMPST, is a 337 amino acid multi-pass membrane protein of the Golgi apparatus that transfers CMP-sialic acid and other nucleotide sugars into the lumen of Golgi vesicles from the cytosol. A member of the nucleotide-sugar transporter family and SLC35A subfamily, CST is encoded by a gene that maps to human chromosome 6q15 and mouse chromosome 4 A5. Defects in the gene encoding CST are the cause of congenital disorder of glycosylation type 2F (CDG2F), a disease caused by defective protein N-glycosylation. CDG2F is characterized by under-glycosylated serum proteins and affects multiple systems of patients with the disease.

REFERENCES

1. Ishida, N., Miura, N., Yoshioka and S., Kawakita, M. 1996. Molecular cloning and characterization of a novel isoform of the human UDP-galactose transporter, and of related complementary DNAs belonging to the nucleotide-sugar transporter gene family. J. Biochem. 120: 1074-1078.
2. Eckhardt, M., Mühlenhoff, M., Bethe and A., Gerardy-Schahn, R. 1996. Expression cloning of the Golgi CMP-sialic acid transporter. Proc. Natl. Acad. Sci. USA 93: 7572-7576.
3. Ishida, N., Ito, M., Yoshioka, S., Sun-Wada and G.H., Kawakita, M. 1998. Functional expression of human golgi CMP-sialic acid transporter in the Golgi complex of a transporter-deficient Chinese hamster ovary cell mutant. J. Biochem. 124: 171-178.
4. Aoki, K., Ishida and N., Kawakita, M. 2003. Substrate recognition by nucleotide sugar transporters: further characterization of substrate recognition regions by analyses of UDP-galactose/CMP-sialic acid transporter chimeras and biochemical analysis of the substrate specificity of parental and chimeric transporters. J. Biol. Chem. 278: 22887-22893.
5. Martinez-Duncker, I., Dupre, T., Piller, V., Piller, F., Candelier, J.J., Trichet, C., Tchernia, G., Oriol and R., Mollicone, R. 2005. Genetic complementation reveals a novel human congenital disorder of glycosylation of type II, due to inactivation of the Golgi CMP-sialic acid transporter. Blood 105: 2671-2676.

CHROMOSOMAL LOCATION

Genetic locus: Slc35a1 (mouse) mapping to 4 A5.

PRODUCT

CST siRNA (m) is a target-specific 19-25 nt siRNA 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 CST shRNA Plasmid (m): sc-142606-SH and CST shRNA (m) Lentiviral Particles: sc-142606-V as alternate gene silencing products.

PROTOCOLS

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

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

CST siRNA (m) is recommended for the inhibition of CST 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 CST gene expression knockdown using RT-PCR Primer: CST (m)-PR: sc-142606-PR (20 µl, 590 bp). 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.