SANTA CRUZ BIOTECHNOLOGY, INC.

CSGlcA-T siRNA (h): sc-89564

BACKGROUND

CSGlcA-T, also known as chondroitin polymerizing factor 2 (CHPF2), chondroitin sulfate glucuronyltransferase or chondroitin synthase-3 (CHSY3), is a 772 amino acid single-pass type II membrane protein of the Golgi apparatus that belongs to the chondroitin N-acetylgalactosaminyltransferase family. Widely expressed and existing as two alternatively spliced isoforms, CSGlcA-T is found at highest levels in small intestine, pancreas and placenta, with lower levels in heart, brain, kidney, and skeletal muscle where it transfers glucuronic acid from UDP-glucuronic acid to N-acetylgalactosamine residues of elongating chondroitin polymers. The gene encoding CSGlcA-T maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Chromosome 7 has been linked to Osteogenesis imperfecta, Pendred syndrome and Lissencephaly.

REFERENCES

1. Tsipouras, P., et al. 1983. Restriction fragment length polymorphism associated with the pro α 2(I) gene of human type I procollagen. Application to a family with an autosomal dominant form of osteogenesis imperfecta. J. Clin. Invest. 72: 1262-1267.
2. Iwasaki, S., et al. 2001. Long-term audiological feature in Pendred syndrome caused by PDS mutation. Arch. Otolaryngol. Head Neck Surg. 127: 705-708.
3. Gotoh, M., et al. 2002. Molecular cloning and characterization of a novel chondroitin sulfate glucuronyltransferase that transfers glucuronic acid to N-acetylgalactosamine. J. Biol. Chem. 277: 38179-38188.
4. 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.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608037. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Reiner, O., et al. 2006. Lissencephaly 1 linking to multiple diseases: mental retardation, neurodegeneration, schizophrenia, male sterility, and more. Neuromolecular Med. 8: 547-565.

CHROMOSOMAL LOCATION

Genetic locus: CHPF2 (human) mapping to 7q36.1.

PRODUCT

CSGlcA-T siRNA (h) 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 CSGlcA-T shRNA Plasmid (h): sc-89564-SH and CSGlcA-T shRNA (h) Lentiviral Particles: sc-89564-V as alternate gene silencing products.

For independent verification of CSGlcA-T (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-89564A, sc-89564B and sc-89564C.

APPLICATIONS

CSGlcA-T siRNA (h) is recommended for the inhibition of CSGlcA-T expression in human 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 CSGlcA-T gene expression knockdown using RT-PCR Primer: CSGlcA-T (h)-PR: sc-89564-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.

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.