SANTA CRUZ BIOTECHNOLOGY, INC.

SLC10A7 siRNA (h): sc-89010

BACKGROUND

The SLC10 family of sodium/bile salt cotransporters contains over 50 members in animal, plant and bacterial species. SLC10A7 (solute carrier family 10 (sodium/bile acid cotransporter family), member 7), also known as P7, is a 358 amino acid multi-pass membrane protein belonging to the sodium:bile acid symporter family. Existing as seven alternatively spliced isoforms, SLC10A7 is expressed at high levels in liver and lung, moderate levels in placenta, kidney, spleen, and thymus, and low levels in heart, prostate, and testis. A few members of the sodium:bile acid symporter family, such as NTCP (also known as SLC10A1) and Asbt (also known as SLC10A2), are involved in maintaining enterohepatic circulation of bile acids by mediating the first step of active bile transport through membrane barriers of liver and intestine. Other family members, including SLC10A6, play an important role in the cellular delivery of specific prohormones in testis, placenta, adrenal gland and other peripheral tissues. Orphan carriers such as SLC10A7 are uncharacterized and their functions unknown.

REFERENCES

1. Filippi, M., et al. 1990. Linkage and sequence conservation of the X-linked genes DXS253E (P3) and DXS254E (GdX) in mouse and man. Genomics 7: 453-457.
2. Hagenbuch, B., Dawson, P. 2004. The sodium bile salt cotransport family SLC10. Pflugers Arch. 447: 566-570.
3. Mita, S., et al. 2006. Inhibition of bile acid transport across Na^+/taurocholate cotransporting polypeptide (SLC10A1) and bile salt export pump (ABCB 11)-coexpressing LLC-PK1 cells by cholestasis-inducing drugs. Drug Metab. Dispos. 34: 1575-1581.
4. Geyer, J., et al. 2006. The solute carrier family SLC10: more than a family of bile acid transporters regarding function and phylogenetic relationships. Naunyn Schmiedebergs Arch. Pharmacol. 372: 413-431.
5. Fernandes, C.F., et al. 2007. The novel putative bile acid transporter SLC10A5 is highly expressed in liver and kidney. Biochem. Biophys. Res. Commun. 361: 26-32.
6. Godoy, J.R., et al. 2007. Molecular and phylogenetic characterization of a novel putative membrane transporter (SLC10A7), conserved in vertebrates and bacteria. Eur. J. Cell Biol. 86: 445-460.
7. Alrefai, W.A. and Gill, R.K. 2007. Bile acid transporters: structure, function, regulation and pathophysiological implications. Pharm. Res. 24: 1803-1823.
8. Geyer, J., et al. 2008. Cloning and molecular characterization of the orphan carrier protein Slc10a4: expression in cholinergic neurons of the rat central nervous system. Neuroscience 152: 990-1005.
9. Cheng, L., et al. 2010. Analysis of chemotherapy response programs in ovarian cancers by the next-generation sequencing technologies. Gynecol. Oncol. 117: 159-169.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: SLC10A7 (human) mapping to 4q31.22.

PRODUCT

SLC10A7 siRNA (h) 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 SLC10A7 shRNA Plasmid (h): sc-89010-SH and SLC10A7 shRNA (h) Lentiviral Particles: sc-89010-V as alternate gene silencing 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

SLC10A7 siRNA (h) is recommended for the inhibition of SLC10A7 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 SLC10A7 gene expression knockdown using RT-PCR Primer: SLC10A7 (h)-PR: sc-89010-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.