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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

NTCP siRNA (m): sc-150086

BACKGROUND

NTCP (Na^+/taurocholate transport protein), also known as SLC10A1 (solute carrier family 10 (sodium/bile acid cotransporter family), member 1), is a 349 amino acid multi-pass membrane protein that belongs to the sodium/bile acid symporter family of cotransporters. Localized to the basolateral membranes of hepatocytes, NTCP plays a role in the hepatic sodium/bile acid uptake system, which functions as a substrate-specific, sodium-dependent transporter of both bile and non-bile organic compounds. The gene encoding NTCP maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presinilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

1. Hagenbuch, B. and Meier, P.J. 1994. Molecular cloning, chromosomal localization, and functional characterization of a human liver Na^+/bile acid cotransporter. J. Clin. Invest. 93: 1326-1331.
2. Green, R.M., Ananthanarayanan, M., Suchy, F.J. and Beier, D.R. 1998. Genetic mapping of the Na^+-taurocholate cotransporting polypeptide to mouse chromosome 12. Mamm. Genome 9: 598.
3. Shiao, T., Iwahashi, M., Fortune, J., Quattrochi, L., Bowman, S., Wick, M., Qadri, I. and Simon, F.R. 2000. Structural and functional characterization of liver cell-specific activity of the human sodium/taurocholate cotransporter. Genomics 69: 203-213.
4. Hallen, S., Mareninova, O., Bränden, M. and Sachs, G. 2002. Organization of the membrane domain of the human liver sodium/bile acid cotransporter. Biochemistry 41: 7253-7266.

CHROMOSOMAL LOCATION

Genetic locus: Slc10a1 (mouse) mapping to 12 D1.

PRODUCT

NTCP 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 NTCP shRNA Plasmid (m): sc-150086-SH and NTCP shRNA (m) Lentiviral Particles: sc-150086-V as alternate gene silencing products.

For independent verification of NTCP (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-150086A, sc-150086B and sc-150086C.

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

NTCP siRNA (m) is recommended for the inhibition of NTCP 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 NTCP gene expression knockdown using RT-PCR Primer: NTCP (m)-PR: sc-150086-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.