SANTA CRUZ BIOTECHNOLOGY, INC.

OATP-H siRNA (h): sc-92053

BACKGROUND

The organic anion transporter family of proteins mediate hepatic uptake of cardiac glycosides. OATP-H (organic anion transporter F), also known as SLCO4C1 (solute carrier organic anion transporter family member 4C1), OATPX or SLC21A14 (solute carrier family 21 member 20), is a 724 amino acid member of the organic anion transporter protein family. As a multi-pass membrane protein, OATP-H mediates the Na^+-independent, high affinity transport of pharmacological substances such as thyroxine, digoxin, methotrexate, cAMP and ouabain. OATP-H is also thought to be involved in the uptake of the dipeptidyl peptidase-4 inhibitor sitagliptin. OATP-H is expressed highly in kidney, with lower expression found in fetal kidney and liver.

REFERENCES

1. Hagenbuch, B. and Meier, P.J. 2003. The superfamily of organic anion transporting polypeptides. Biochim. Biophys. Acta 1609: 1-18.
2. Hagenbuch, B. and Meier, P.J. 2004. Organic anion transporting polypeptides of the OATP/SLC21 family: phylogenetic classification as OATP/SLCO superfamily, new nomenclature and molecular/functional properties. Pflugers Arch. 447: 653-665.
3. Mikkaichi, T., et al. 2004. Isolation and characterization of a digoxin transporter and its rat homologue expressed in the kidney. Proc. Natl. Acad. Sci. USA 101: 3569-3574.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 609013. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Hagenbuch, B. 2007. Cellular entry of thyroid hormones by organic anion transporting polypeptides. Best Pract. Res. Clin. Endocrinol. Metab. 21: 209-221.
6. Chu, X.Y., et al. 2007. Transport of the dipeptidyl peptidase-4 inhibitor sitagliptin by human organic anion transporter 3, organic anion transporting polypeptide 4C1, and multidrug resistance P-glycoprotein. J. Pharmacol. Exp. Ther. 321: 673-683.

CHROMOSOMAL LOCATION

Genetic locus: SLCO4C1 (human) mapping to 5q21.1.

PRODUCT

OATP-H 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 OATP-H shRNA Plasmid (h): sc-92053-SH and OATP-H shRNA (h) Lentiviral Particles: sc-92053-V as alternate gene silencing products.

For independent verification of OATP-H (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-92053A, sc-92053B and sc-92053C.

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

OATP-H siRNA (h) is recommended for the inhibition of OATP-H 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 OATP-H gene expression knockdown using RT-PCR Primer: OATP-H (h)-PR: sc-92053-PR (20 µl, 473 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wong, C.C., et al. 2012. Carrier-mediated transport of quercetin conjugates: involvement of organic anion transporters and organic anion transporting polypeptides. Biochem. Pharmacol. 84: 564-570.

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.