

Oatp4 siRNA (m): sc-61252

BACKGROUND

The organic anion transporter family of proteins mediate hepatic uptake of cardiac glycosides. Oatp4, also known as Slco1b2 (solute carrier organic anion transporter family member 1B2), Slc21a10 (solute carrier family 21 member 10) or LST-1 (liver-specific organic anion transporter 1), is a 689 amino acid member of the organic anion transporter protein family. As a multi-pass membrane protein, Oatp4 mediates the Na⁺ transport of bromo-sulphophthalein, taurocholate and other organic anions. Oatp4 is also thought to transport steroid conjugates, such as 17- β -glucuronosyl estradiol, dehydroepiandrosterone sulfate, estrone-3-sulfate and prostaglandin E2. Oatp4 is liver-specific and expressed as three isoforms produced by alternative splicing.

REFERENCES

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2. Cattori, V., et al. 2000. Identification of organic anion transporting polypeptide 4 (Oatp4) as a major full-length isoform of the liver-specific transporter-1 (rlst-1) in rat liver. *FEBS Lett.* 474: 242-245.
3. Choudhuri, S., et al. 2000. Cloning of the full-length coding sequence of rat liver-specific organic anion transporter-1 (rlst-1) and a splice variant and partial characterization of the rat lsl-1 gene. *Biochem. Biophys. Res. Commun.* 274: 79-86.
4. Cattori, V., et al. 2001. Localization of organic anion transporting polypeptide 4 (Oatp4) in rat liver and comparison of its substrate specificity with Oatp1, Oatp2 and Oatp3. *Pflügers Arch.* 443: 188-195.
5. Li, N., et al. 2004. Down-regulation of mouse organic anion-transporting polypeptide 4 (Oatp4; Oatp1b2; Slc21a10) mRNA by lipopolysaccharide through the Toll-like receptor 4 (TLR4). *Drug Metab. Dispos.* 32: 1265-1271.
6. Li, N., et al. 2004. Role of liver-enriched transcription factors in the down-regulation of organic anion transporting polypeptide 4 (oatp4; oatp1b2; slc21a10) by lipopolysaccharide. *Mol. Pharmacol.* 66: 694-701.

CHROMOSOMAL LOCATION

Genetic locus: Slco1b2 (mouse) mapping to 6 G2.

PRODUCT

Oatp4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Oatp4 shRNA Plasmid (m): sc-61252-SH and Oatp4 shRNA (m) Lentiviral Particles: sc-61252-V as alternate gene silencing products.

For independent verification of Oatp4 (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-61252A, sc-61252B and sc-61252C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Oatp4 siRNA (m) is recommended for the inhibition of Oatp4 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

Oatp4 (D-12): sc-376904 is recommended as a control antibody for monitoring of Oatp4 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Oatp4 gene expression knockdown using RT-PCR Primer: Oatp4 (m)-PR: sc-61252-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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