

OATP-F siRNA (h): sc-106823

BACKGROUND

The organic anion transporter family of proteins mediate hepatic uptake of cardiac glycosides. OATP-F (organic anion transporter F), also known as SLC01C1 (solute carrier organic anion transporter family member 1C1) or SLC21A14 (solute carrier family 21 member 14), is a 712 amino acid member of the organic anion transporter protein family. As a multi-pass membrane protein, OATP-F mediates the Na⁺-independent, high affinity transport of the thyroid hormones thyroxine (T4) and rT3 and other organic anions. OATP-F is also thought to transport estrone-3-sulfate and sulfobromophthalein (BSP), triiodothyronine (T3) and 17-β-glucuronosyl estradiol at a much lower efficiency. OATP-F is expressed highly in Leydig cells in testis and in brain.

REFERENCES

1. Pizzagalli, F., et al. 2002. Identification of a novel human organic anion transporting polypeptide as a high affinity thyroxine transporter. *Mol. Endocrinol.* 16: 2283-2296.
2. Cai, S.Y., et al. 2002. An evolutionarily ancient Oatp: insights into conserved functional domains of these proteins. *Am. J. Physiol. Gastrointest. Liver Physiol.* 282: G702-G710.
3. Kato, Y., et al. 2004. Screening of the interaction between xenobiotic transporters and PDZ proteins. *Pharm. Res.* 21: 1886-1894.
4. Funakoshi, S., et al. 2005. Role of organic anion transporting polypeptide and β-methylidigoxin in rats. *J. Pharm. Sci.* 94: 1196-1203.
5. van der Deure, W.M., et al. 2008. Thyroid hormone transport and metabolism by organic anion transporter 1C1 and consequences of genetic variation. *Endocrinology* 149: 5307-5314.
6. Roberts, L.M., et al. 2008. Expression of the thyroid hormone transporters monocarboxylate transporter-8 (SLC16A2) and organic ion transporter-14 (SLC01C1) at the blood-brain barrier. *Endocrinology* 149: 6251-6261.
7. Franke, R.M., et al. 2009. Pharmacogenetics of the organic anion transporting polypeptide 1A2. *Pharmacogenomics* 10: 339-344.
8. Westholm, D.E., et al. 2009. Competitive inhibition of organic anion transporting polypeptide 1c1-mediated thyroxine transport by the fenamate class of nonsteroidal antiinflammatory drugs. *Endocrinology* 150: 1025-1032.

CHROMOSOMAL LOCATION

Genetic locus: SLC01C1 (human) mapping to 12p12.2.

PRODUCT

OATP-F 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-F shRNA Plasmid (h): sc-106823-SH and OATP-F shRNA (h) Lentiviral Particles: sc-106823-V as alternate gene silencing products.

For independent verification of OATP-F (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-106823A, sc-106823B and sc-106823C.

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-F siRNA (h) is recommended for the inhibition of OATP-F 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.

GENE EXPRESSION MONITORING

OATP-F (G-5): sc-398883 is recommended as a control antibody for monitoring of OATP-F 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 OATP-F gene expression knockdown using RT-PCR Primer: OATP-F (h)-PR: sc-106823-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.

PROTOCOLS

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