

OCT6 siRNA (m): sc-150172

BACKGROUND

Organic cation transporters (OCT) are expressed in the plasma membrane of epithelial cells from a wide range of tissues, where they function in the elimination of endogenous amines and cationic drugs as well as other exogenous xenobiotics. The structure of OCT family member proteins consists of a 12-transmembrane-domain structure and a large extracellular hydrophilic loop. In humans, OCT1 is primarily expressed in the liver, while OCT2 is expressed in the kidney. OCT3 is expressed in the placenta, skeletal muscle, prostate, aorta and liver. OCT6 is highly expressed in testis and fetal liver. OCT6 also displays high expression in human hematopoietic tissues, including CD34⁺ cells and leukemias making OCT6 a potential therapeutic target for the treatment of leukemia.

REFERENCES

- Gorboulev, V., et al. 1997. Cloning and characterization of two human poly-specific organic cation transporters. *DNA Cell Biol.* 16: 871-881.
- Koepsell, H. 1998. Organic cation transporters in intestine, kidney, liver, and brain. *Annu. Rev. Physiol.* 60: 246-266.
- Dresser, M.J., et al. 1999. Molecular and functional characteristics of clones human organic cation transporters. *Pharm. Biotechnol.* 12: 441-469.
- Verhaagh, S., et al. 1999. Cloning of the mouse and human solute carrier 22 α 3 (SIC22A3/SLC22A#) identifies a conserved cluster three organic cation transporters on mouse chromosome 17 and human 6q26-q27. *Genomics* 55: 209-218.
- Gong, S., et al. 2002. Identification of OCT6 as a novel organic cation transporter preferentially expressed in hematopoietic cells and leukemias. *Exp. Hematol.* 30: 1162-1169.

CHROMOSOMAL LOCATION

Genetic locus: Slc22a16 (mouse) mapping to 10 B1.

PRODUCT

OCT6 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 OCT6 shRNA Plasmid (m): sc-150172-SH and OCT6 shRNA (m) Lentiviral Particles: sc-150172-V as alternate gene silencing products.

For independent verification of OCT6 (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-150172A, sc-150172B and sc-150172C.

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.

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

OCT6 siRNA (m) is recommended for the inhibition of OCT6 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

OCT6 (H-6): sc-390056 is recommended as a control antibody for monitoring of OCT6 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 OCT6 gene expression knockdown using RT-PCR Primer: OCT6 (m)-PR: sc-150172-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.