

Slc5a11 siRNA (m): sc-153571

BACKGROUND

SGLT-6, also known as SLC5A11 (solute carrier family 5 (sodium/glucose cotransporter), member 11) KST1, SLGTx or SMIT2, is a 675 amino acid multi-pass membrane protein that belongs to the sodium/solute symporter family of transport proteins. Expressed at high levels in kidney, heart, placenta, liver and skeletal muscle, SGLT-6 is involved in the co-transport of myo-inositol with sodium, specifically facilitating the transport of two myo-inositols per sodium ion. In addition to its role in sodium transport, SGLT-6 also participates in the transport of glucose and xylose and may function to induce Pcd-1-dependent cell apoptosis. The gene encoding SGLT-6 is an autoimmune modifier in systemic lupus erythematosus (SLE), suggesting an involvement for SGLT-6 in the pathogenesis of SLE. Multiple isoforms of SGLT-6 exist due to alternative splicing events.

REFERENCES

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2. Coady, M.J., et al. 2002. Identification of a novel Na⁺/Myo-inositol cotransporter. *J. Biol. Chem.* 277: 35219-35224.
3. Groenen, P.M., et al. 2004. Spina bifida and genetic factors related to Myo-inositol, glucose, and zinc. *Mol. Genet. Metab.* 82: 154-161.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610238. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Yang, Y., et al. 2007. Gene copy-number variation and associated polymorphisms of complement component C4 in human systemic lupus erythematosus (SLE): low copy number is a risk factor for and high copy number is a protective factor against SLE susceptibility in European Americans. *Am. J. Hum. Genet.* 80: 1037-1054.
6. Tsai, L.J., et al. 2008. The sodium-dependent glucose cotransporter SLC5A11 as an autoimmune modifier gene in SLE. *Tissue Antigens* 71: 114-126.

CHROMOSOMAL LOCATION

Genetic locus: Slc5a11 (mouse) mapping to 7 F3.

PRODUCT

Slc5a11 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 Slc5a11 shRNA Plasmid (m): sc-153571-SH and Slc5a11 shRNA (m) Lentiviral Particles: sc-153571-V as alternate gene silencing products.

For independent verification of Slc5a11 (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-153571A, sc-153571B and sc-153571C.

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

Slc5a11 siRNA (m) is recommended for the inhibition of Slc5a11 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Slc5a11 gene expression knockdown using RT-PCR Primer: Slc5a11 (m)-PR: sc-153571-PR (20 μ l). 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.