

SLC5A12 siRNA (m): sc-153572

BACKGROUND

SLC5A12 (solute carrier family 5 (sodium/glucose cotransporter), member 12), also known as SMCT2, is a 618 amino acid multi-pass membrane protein that belongs to the sodium:solute symporter (SSF) family. Considered an electroneutral and low-affinity sodium (Na^+)-dependent sodium-coupled solute transporter, SLC5A12 mediates the transport of a variety of monocarboxylates, including short-chain fatty acids, lactate, nicotinate and pyruvate. SLC5A12 is thought to participate in the initial step of reabsorption of monocarboxylates from the lumen of the proximal tubule of kidney and small intestine. It is also suggested that SLC5A12 plays a role in the transport of monocarboxylates in retina and is strongly inhibited by ibuprofen, fenoprofen and ketoprofen. SLC5A12 exists as two alternatively spliced isoforms and is encoded by a gene located on human chromosome 11p14.2.

REFERENCES

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6. Martin, P.M., et al. 2007. Expression of the sodium-coupled monocarboxylate transporters SMCT1 (SLC5A8) and SMCT2 (SLC5A12) in retina. *Invest. Ophthalmol. Vis. Sci.* 48: 3356-3363.
7. Plata, C., et al. 2007. Zebrafish SLC5A12 encodes an electroneutral sodium monocarboxylate transporter (SMCTn). A comparison with the electrogenic SMCT (SMCTe/Slc5a8). *J. Biol. Chem.* 282: 11996-12009.

CHROMOSOMAL LOCATION

Genetic locus: Slc5a12 (mouse) mapping to 2 E3.

PRODUCT

SLC5A12 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SLC5A12 shRNA Plasmid (m): sc-153572-SH and SLC5A12 shRNA (m) Lentiviral Particles: sc-153572-V as alternate gene silencing products.

For independent verification of SLC5A12 (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-153572A, sc-153572B and sc-153572C.

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

SLC5A12 siRNA (m) is recommended for the inhibition of SLC5A12 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 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

SLC5A12 (H-4): sc-515141 is recommended as a control antibody for monitoring of SLC5A12 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 MarkerTM 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 SLC5A12 gene expression knockdown using RT-PCR Primer: SLC5A12 (m)-PR: sc-153572-PR (20 μl). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

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.