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SLC4A7 siRNA (m): sc-153569

BACKGROUND

SLC4A7 (solute carrier family 4 member 7), also known as sodium bicarbonate cotransporter 3, is a 1,214 amino acid multi-pass membrane protein that mediates the movement of sodium and bicarbonate across the cell membrane. Studies in mice have shown that hydrogen ion disposal mediated by SLC4A7 is essential for auditory and visual systems, therefore, defects in the gene encoding SLC4A7 may result in the human manifestation of Usher syndrome, a leading cause of deafblindness. With highest expression in spleen and testis, SLC4A7 is also expressed in a variety of other tissues, including brain, skeletal muscle and heart. Due to its critical role in intracellular pH regulation, SLC4A7 is notably affected by hypoxic states during which protein levels are decreased, presumably for reduction of energy consumption. There are five isoforms of SLC4A7 that exist as a result of alternative splicing events.

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CHROMOSOMAL LOCATION

Genetic locus: Slc4a7 (mouse) mapping to 14 A2.

PROTOCOLS

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

PRODUCT

SLC4A7 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 SLC4A7 shRNA Plasmid (m): sc-153569-SH and SLC4A7 shRNA (m) Lentiviral Particles: sc-153569-V as alternate gene silencing products.

For independent verification of SLC4A7 (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-153569A, sc-153569B and sc-153569C.

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

SLC4A7 siRNA (m) is recommended for the inhibition of SLC4A7 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SLC4A7 gene expression knockdown using RT-PCR Primer: SLC4A7 (m)-PR: sc-153569-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.