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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# NHE-5 siRNA (m): sc-42657

## BACKGROUND

Na<sup>+</sup>/H<sup>+</sup> exchangers-1–6 (Na<sup>+</sup>/H<sup>+</sup> antiporters, NHE-1–6) are integral membrane proteins that are expressed in most mammalian tissues, where they regulate intracellular pH and cell volume. NHEs mediate the secondary active extrusion of hydrogen (H<sup>+</sup>) ions out of cells in exchange for extracellular sodium (Na<sup>+</sup>). Excluding NHE-1, which is ubiquitously expressed, NHE isoforms 2-6 have distinct tissue- and cell type-dependent expression and inhibitory characteristics by amiloride analogs. Human NHE-5 transcript (solute carrier family 9, isoform-5, SLC9A5) is an 896 amino acid protein that is expressed in brain, testis, spleen, and skeletal muscle.

## REFERENCES

1. Fliegel, L., et al. 1993. Cloning and analysis of the human myocardial Na<sup>+</sup>/H<sup>+</sup> exchanger. *Mol. Cell. Biochem.* 125: 137-143.
2. Biemesderfer, D., et al. 1993. NHE3: a Na<sup>+</sup>/H<sup>+</sup> exchanger isoform of renal brush border. *Am. J. Physiol.* 265: F736-F742.
3. Noel, J., et al. 1995. Hormonal regulation, pharmacology, and membrane sorting of vertebrate Na<sup>+</sup>/H<sup>+</sup> exchanger isoforms. *Am. J. Physiol.* 268: C283-C296.
4. Klanke, C.A., et al. 1995. Molecular cloning and physical and genetic mapping of a novel human Na<sup>+</sup>/H<sup>+</sup> exchanger (NHE5/SLC9A5) to chromosome 16q22.1. *Genomics* 25: 615-622.
5. Cox, G.A., et al. 1997. Sodium/hydrogen exchanger gene defect in slow-wave epilepsy mutant mice. *Cell* 91: 139-148.
6. Baird, N.R., et al. 1999. Molecular cloning, genomic organization, and functional expression of Na<sup>+</sup>/H<sup>+</sup> exchanger isoform 5 (NHE5) from human brain. *J. Biol. Chem.* 274: 4377-4382.

## CHROMOSOMAL LOCATION

Genetic locus: Slc9a5 (mouse) mapping to 8 D3.

## PRODUCT

NHE-5 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 NHE-5 shRNA Plasmid (m): sc-42657-SH and NHE-5 shRNA (m) Lentiviral Particles: sc-42657-V as alternate gene silencing products.

For independent verification of NHE-5 (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-42657A, sc-42657B and sc-42657C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://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 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

NHE-5 siRNA (m) is recommended for the inhibition of NHE-5 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 NHE-5 gene expression knockdown using RT-PCR Primer: NHE-5 (m)-PR: sc-42657-PR (20 μl, 587 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.