

# sNHE siRNA (h): sc-78109

## BACKGROUND

Na<sup>+</sup>/H<sup>+</sup> (sodium/hydrogen) exchangers are integral membrane proteins that are expressed in most mammalian tissues, where they regulate intracellular pH and cell volume. NHEs mediate the transport of hydrogen (H<sup>+</sup>) ions out of cells in exchange for extracellular sodium (Na<sup>+</sup>) ions. sNHE (sperm-specific Na<sup>+</sup>/H<sup>+</sup> exchanger), also known as SLC9A10 (solute carrier family 9, member 10) or NHE-10, is a 1,177 amino acid sperm-specific sodium/hydrogen exchanger that regulates intracellular pH in spermatozoa. A multi-pass membrane protein, sNHE is essential in sperm motility, male fertility and plays a role in sperm cell hyperactivation. sNHE exists as two alternatively spliced isoforms that are encoded by a gene located on human chromosome 3, and contains one cyclic nucleotide-binding domain.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: SLC9C1 (human) mapping to 3q13.2.

## 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.

## PRODUCT

sNHE siRNA (h) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see sNHE shRNA Plasmid (h): sc-78109-SH and sNHE shRNA (h) Lentiviral Particles: sc-78109-V as alternate gene silencing products.

For independent verification of sNHE (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-78109A, sc-78109B and sc-78109C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

sNHE siRNA (h) is recommended for the inhibition of sNHE expression in human 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  $\mu$ M in 66  $\mu$ 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 sNHE gene expression knockdown using RT-PCR Primer: sNHE (h)-PR: sc-78109-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.