

# NHE-1 (C-20): sc-16097

## 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, the NHE isoforms 2-6 have distinct tissue- and cell type-dependent expression and inhibitory characteristics by amiloride analogs. Human NHE-1 protein, known also as solute carrier family 9 isoform-1 (SLC9A1) is a ten transmembrane domain-spanning receptor that contains an N-terminal amphiphatic domain and two putative N-glycosylation sites.

## CHROMOSOMAL LOCATION

Genetic locus: SLC9A1 (human) mapping to 1p36.11; Slc9a1 (mouse) mapping to 4 D2.3.

## SOURCE

NHE-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NHE-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16097 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

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

## APPLICATIONS

NHE-1 (C-20) is recommended for detection of NHE-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). NHE-1 (C-20) is also recommended for detection of NHE-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NHE-1 siRNA (h): sc-42650, NHE-1 siRNA (m): sc-42651, NHE-1 shRNA Plasmid (h): sc-42650-SH, NHE-1 shRNA Plasmid (m): sc-42651-SH, NHE-1 shRNA (h) Lentiviral Particles: sc-42650-V and NHE-1 shRNA (m) Lentiviral Particles: sc-42651-V.

Molecular Weight of NHE-1 precursor: 90 kDa.

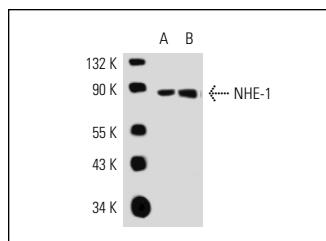
Molecular Weight of glycosylated NHE-1: 110-130 kDa.

Molecular Weight of NHE-1 dimer: 210 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



NHE-1 (C-20): sc-16097. Western blot analysis of NHE-1 expression in MOLT-4 (A) and K-562 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Bkaily, G., et al. 2004. Immunofluorescence revealed the presence of NHE-1 in the nuclear membranes of rat cardiomyocytes and isolated nuclei of human, rabbit, and rat aortic and liver tissues. *Can. J. Physiol. Pharmacol.* 82: 805-811.
2. Villa-Abrille, M.C., et al. 2011. Silencing of cardiac mitochondrial NHE1 prevents mitochondrial permeability transition pore opening. *Am. J. Physiol. Heart Circ. Physiol.* 300: H1237-H1251.
3. Liu, L., et al. 2011. High capacity Na<sup>+</sup>/H<sup>+</sup> exchange activity in mineralizing osteoblasts. *J. Cell. Physiol.* 226: 1702-1712.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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