

# NHE-2 (H-172): sc-30167

## 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-2 protein, known also as solute carrier family 9 isoform-2, SLC9A2, is an 812 amino acid protein that is expressed in skeletal muscle, colon, kidney, testis, prostate, ovary, and small intestine.

## 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: 736-742.
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: 283-296.
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 (NHE-5/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. Malakooti, J., et al. 1999. Molecular cloning, tissue distribution and functional expression of the human Na<sup>+</sup>/H<sup>+</sup> exchanger NHE-2. *Am. J. Physiol.* 277: 383-390.

## CHROMOSOMAL LOCATION

Genetic locus: SLC9A2 (human) mapping to 2q12.1; Slc9a2 (mouse) mapping to 1 B.

## SOURCE

NHE-2 (H-172) is a rabbit polyclonal antibody raised against amino acids 641-812 mapping within a C-terminal cytoplasmic domain of NHE-2 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.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

NHE-2 (H-172) is recommended for detection of NHE-2 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).

Suitable for use as control antibody for NHE-2 siRNA (h): sc-42652, NHE-2 siRNA (m): sc-42653, NHE-2 shRNA Plasmid (h): sc-42652-SH, NHE-2 shRNA Plasmid (m): sc-42653-SH, NHE-2 shRNA (h) Lentiviral Particles: sc-42652-V and NHE-2 shRNA (m) Lentiviral Particles: sc-42653-V.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Uray, K.S., et al. 2011. Sodium hydrogen exchanger as a mediator of hydrostatic edema-induced intestinal contractile dysfunction. *Surgery* 149: 114-125.

## RESEARCH USE

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