

NHE-3 (H-170): sc-28757

BACKGROUND

Na⁺/H⁺ exchangers-1-8 (also designated Na⁺/H⁺ antiporters or NHE-1-8) 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⁺) ions out of cells in exchange for extracellular sodium (Na⁺) ions. While NHE-1 is ubiquitously expressed, the NHE isoforms 2-8 have distinct tissue- and cell type-dependent expression and inhibitory characteristics. NHE-3 localizes to the apical membrane of renal proximal tubules where it is responsible for most of the sodium transport and fluid reabsorption. NHE-3 translocates to internal pools where it mediates natriuresis when blood pressure increases abruptly. NHE-3 is also expressed in the stomach and functions to protect the mucosa by secreting protons that diffuse into the mucous cells.

REFERENCES

- Orlowski, J., et al. 1992. Molecular cloning of putative members of the Na/H exchanger gene family. cDNA cloning, deduced amino acid sequence, and mRNA tissue expression of the rat Na/H exchanger NHE-1 and two structurally related proteins. *J. Biol. Chem.* 267: 9331-9339.
- Harris, S.P., et al. 1997. Epithelial localization of a reptilian Na⁺/H⁺ exchanger homologous to NHE-1. *Am. J. Physiol.* 272: 1594-1606.

CHROMOSOMAL LOCATION

Genetic locus: SLC9A3 (human) mapping to 5p15.33; Slc9a3 (mouse) mapping to 13 C1.

SOURCE

NHE-3 (H-170) is a rabbit polyclonal antibody raised against amino acids 665-834 mapping within a C-terminal cytoplasmic domain of NHE-3 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.

APPLICATIONS

NHE-3 (H-170) is recommended for detection of NHE-3 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), immunohistochemistry (including paraffin-embedded sections) (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-3 siRNA (h): sc-36059, NHE-3 siRNA (m): sc-36060, NHE-3 shRNA Plasmid (h): sc-36059-SH, NHE-3 shRNA Plasmid (m): sc-36060-SH, NHE-3 shRNA (h) Lentiviral Particles: sc-36059-V and NHE-3 shRNA (m) Lentiviral Particles: sc-36060-V.

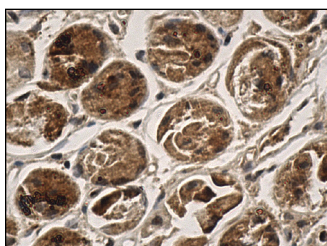
Molecular Weight (glycosylated) of NHE-3 isoforms: 93/ 80-100 kDa.

Positive Controls: rat kidney extract: sc-2394.

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



NHE-3 (H-170): sc-28757. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells.

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.

PROTOCOLS

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


 MONOS
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Try **NHE-3 (53): sc-136368**, our highly recommended monoclonal alternative to NHE-3 (H-170).