

NHE-5 (N-20): sc-16107

BACKGROUND

Na⁺/H⁺ exchangers-1-6 (Na⁺/H⁺ 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⁺) ions out of cells in exchange for extracellular sodium (Na⁺). 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-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⁺/H⁺ exchanger. *Mol. Cell Biochem.* 125: 137-143.
2. Biemesderfer, D., et al. 1993. NHE3: a Na⁺/H⁺ 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⁺/H⁺ 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⁺/H⁺ 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⁺/H⁺ exchanger isoform 5 (NHE5) from human brain. *J. Biol. Chem.* 274: 4377-4382.

CHROMOSOMAL LOCATION

Genetic locus: SLC9A5 (human) mapping to 16q22.1; Slc9a5 (mouse) mapping to 8 D3.

SOURCE

NHE-5 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NHE-5 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-16107 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-5 (N-20) is recommended for detection of NHE-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-5 (N-20) is also recommended for detection of NHE-5 in additional species, including porcine.

Suitable for use as control antibody for NHE-5 siRNA (h): sc-42656, NHE-5 siRNA (m): sc-42657, NHE-5 shRNA Plasmid (h): sc-42656-SH, NHE-5 shRNA Plasmid (m): sc-42657-SH, NHE-5 shRNA (h) Lentiviral Particles: sc-42656-V and NHE-5 shRNA (m) Lentiviral Particles: sc-42657-V.

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) 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.

SELECT PRODUCT CITATIONS