**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 (NHE-2-6 have distinct tissue- and cell type-dependent expression and inhibitory characteristics by amiloride analogs. Human NHE-1 protein, known also as a solute carrier family 9 isomort-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 (54) is a mouse monoclonal antibody raised against amino acids 682-801 of NHE-1 of rat origin.

**PRODUCT**

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NHE-1 (54) is available conjugated to agarose (sc-136239 AC), 500 µg/0.25 ml agarose in 1 ml, for IP, and to HRP (sc-136239 HRP), 200 µg/ml, for WB, IHC(P) and ELISA. Blocking peptide available for competition studies, sc-136239 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**APPLICATIONS**

NHE-1 (54) 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

NHE-1 (54) is also recommended for detection of NHE-1 in additional species, including canine.

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.

**Positive Controls:** K-562 whole cell lysate: sc-2203, MOLT-4 cell lysate: sc-2233 or HeLa whole cell lysate: sc-2200.

**DATA**

**NHE-1 [54]: sc-136239.** Western blot analysis of NHE-1 expression in MOLT-4 (A), K-562 (B), Hela (C) and NIH/3T3 (D) whole cell lysates and mouse ovary tissue extract (E).

**NHE-1 (54): sc-136239.** Immunofluorescence staining of methyl-fixed Hela cells showing membrane localization (A); NHE-1 (54) HRP: sc-136239 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells. Blocked with 0.2% UltraCruz® Blocking Reagent: sc-51214 (B).

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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