

**Nhe-1 Antibody**  
Catalog # ASC10604**Specification****Nhe-1 Antibody - Product Information**

Application	<b>WB, IHC, IF</b>
Primary Accession	<a href="#">P19634</a>
Other Accession	<a href="#">P19634</a> , <a href="#">127809</a>
Reactivity	<b>Human, Mouse, Rat</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Isotype	<b>IgG</b>
Calculated MW	<b>Predicted: 52, 90 kDa</b>
Application Notes	<b>Observed: 50, 90 kDa KDa</b> <b>Nhe-1 antibody can be used for detection of Nhe-1 by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.</b>

**Nhe-1 Antibody - Additional Information**Gene ID **6548****Target/Specificity**

SLC9A1; At least three isoforms of Nhe-1 are known to exist.

**Reconstitution & Storage**

Nhe-1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

Nhe-1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Nhe-1 Antibody - Protein Information**Name SLC9A1 ([HGNC:11071](#))**Function**

Electroneutral Na(+)/H(+) antiporter that extrudes Na(+) in exchange for external protons driven by the inward sodium ion chemical gradient, protecting cells from acidification that occurs from metabolism (PubMed: <http://www.uniprot.org/citations/11350981> target="\_blank">11350981</a>, PubMed: <http://www.uniprot.org/citations/11532004> target="\_blank">11532004</a>, PubMed: <http://www.uniprot.org/citations/14680478> target="\_blank">14680478</a>, PubMed: <http://www.uniprot.org/citations/15035633> target="\_blank">15035633</a>, PubMed: <http://www.uniprot.org/citations/15677483> target="\_blank">15677483</a>)

target="\_blank">15677483</a>, PubMed:<a href="http://www.uniprot.org/citations/17073455" target="\_blank">17073455</a>, PubMed:<a href="http://www.uniprot.org/citations/17493937" target="\_blank">17493937</a>, PubMed:<a href="http://www.uniprot.org/citations/22020933" target="\_blank">22020933</a>, PubMed:<a href="http://www.uniprot.org/citations/27650500" target="\_blank">27650500</a>, PubMed:<a href="http://www.uniprot.org/citations/32130622" target="\_blank">32130622</a>, PubMed:<a href="http://www.uniprot.org/citations/7110335" target="\_blank">7110335</a>, PubMed:<a href="http://www.uniprot.org/citations/7603840" target="\_blank">7603840</a>). Exchanges intracellular H(+) ions for extracellular Na(+) in 1:1 stoichiometry (By similarity). Plays a key role in maintaining intracellular pH neutral and cell volume, and thus is important for cell growth, proliferation, migration and survival (PubMed:<a href="http://www.uniprot.org/citations/12947095" target="\_blank">12947095</a>, PubMed:<a href="http://www.uniprot.org/citations/15096511" target="\_blank">15096511</a>, PubMed:<a href="http://www.uniprot.org/citations/22020933" target="\_blank">22020933</a>, PubMed:<a href="http://www.uniprot.org/citations/8901634" target="\_blank">8901634</a>). In addition, can transport lithium Li(+) and functions also as a Na(+)/Li(+) antiporter (PubMed:<a href="http://www.uniprot.org/citations/7603840" target="\_blank">7603840</a>). SLC9A1 also functions in membrane anchoring and organization of scaffolding complexes that coordinate signaling inputs (PubMed:<a href="http://www.uniprot.org/citations/15096511" target="\_blank">15096511</a>).

### Cellular Location

Cell membrane; Multi-pass membrane protein. Basolateral cell membrane {ECO:0000250|UniProtKB:P48762}; Multi-pass membrane protein. Note=Localized basolaterally in every epithelial cell, except in the choroid plexus where SLC9A1 is expressed lumenally.

### Tissue Location

Kidney and intestine.

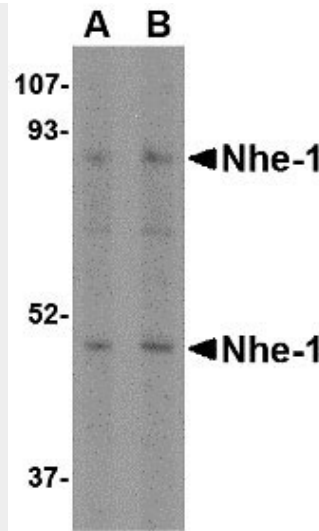
### Nhe-1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

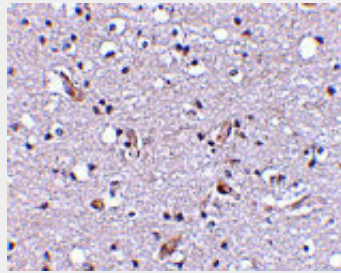
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Nhe-1 Antibody - Images

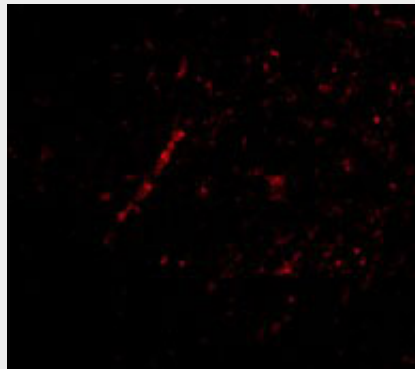




Western blot analysis of Nhe-1 in rat kidney tissue lysate with in with Nhe-1 antibody at (A) 1 and (B) 2  $\mu\text{g/mL}$ .



Immunohistochemical staining of human brain tissue using Nhe-1 antibody at 2.5  $\mu\text{g/mL}$ .



Immunofluorescence of Nhe-1 in Human Brain tissue with Nhe-1 antibody at 20  $\mu\text{g/mL}$ .

### **Nhe-1 Antibody - Background**

Nhe-1 Antibody: The  $\text{Na}^+/\text{H}^+$  antiporter (Nhe-1) is a ubiquitous membrane-bound enzyme involved in pH regulation of vertebrate cells and is specifically inhibited by the diuretic drug amiloride and activated by a variety of signals including growth factors, mitogens, neurotransmitters, and tumor promoters. Nhe-1 acts as an anchor for actin filaments to control the integrity of the cortical cytoskeleton. This occurs through a previously unrecognized structural link between Nhe-1 and the actin-binding proteins ezrin, radixin, and moesin, collectively referred to as ERM proteins. A structural role for Nhe-1 has been proposed in regulating the cortical cytoskeleton that is independent of its function as an ion exchanger. It is also thought that Nhe-1 play a role in hypertension.

**Nhe-1 Antibody - References**

- Mendoza SA. The Na<sup>+</sup>-H<sup>+</sup> antiport is a mediator of cell proliferation. *Acta Paediatr. Scand.* 1987; 76:545-7.
- Denker SP, Huang DC, Orlowski J, et al. Direct binding of the NA—H exchanger NHE1 to ERM proteins regulates the cortical cytoskeleton and cell shape independently of H(+) translocation. *Mol. Cell.* 2000; 6:1425-36.
- Cingolani HE, Rebolledo OR, Portiansky EL, et al. Regression of hypertensive myocardial fibrosis by NA (+)/H(+) exchange inhibition. *Hypertension* 2003; 41:373-7.