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Nhe-1 Antibody

Catalog # ASC10604

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P19634
Other Accession	P19634, 127809
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	90763
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Nhe-1 antibody can be used for detection of Nhe-1 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	6548
Other Names	Sodium/hydrogen exchanger 1, APNH, Na(+)/H(+) antiporter, amiloride-sensitive, Na(+)/H(+) exchanger 1, NHE-1, Solute carrier family 9 member 1, SLC9A1, APNH1, NHE1
Target/Specificity	SLC9A1; At least three isoforms of Nhe-1 are known to exist.
Reconstitution & Storage	Nhe-1 antibody can be stored at 4℃ for three months and -20℃, 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.

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:11350981, PubMed:11532004, PubMed:14680478, PubMed:15035633, PubMed:15677483, PubMed:17073455, PubMed:17493937, PubMed:22020933, PubMed:27650500, PubMed:32130622, PubMed:7110335, PubMed:7603840). Exchanges intracellular H(+) ions for extracellular Na(+) in 1:1 stoichiometry (By

	similarity). Plays a key role in maintening intracellular pH neutral and cell volume, and thus is important for cell growth, proliferation, migration and survival (PubMed:12947095, PubMed:15096511, PubMed:22020933, PubMed:8901634). In addition, can transport lithium Li(+) and also functions as a Na(+)/Li(+) antiporter (PubMed:7603840). SLC9A1 also functions in membrane anchoring and organization of scaffolding complexes that coordinate signaling inputs (PubMed:15096511).
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 luminally.
Tissue Location	Kidney and intestine.

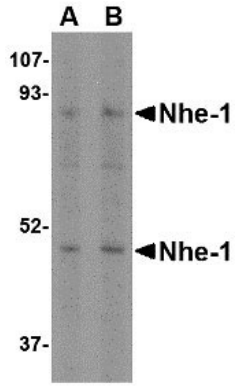
Background

Nhe-1 Antibody: The Na+/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.

References

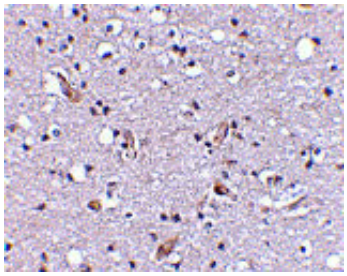
Mendoza SA. The Na+-H+ antiport is a mediator of cell proliferation. Acta Paediatr. Scand. 1987; 76:545-7.
Denker SP, Huang DC, Orlowski J, et al. Direct binding of the NA—H exchanger NHE1 to ERM proteins regulates the cortical cytoskeleton and cell shape independently of H(+) translocation. Mol. Cell. 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.

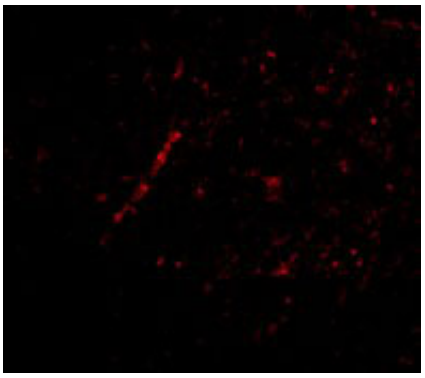
Images



Western blot analysis of Nhe-1 in rat kidney tissue lysate with in with Nhe-1 antibody at (A) 1 and (B) 2 µg/mL.

Immunohistochemical staining of human brain tissue using Nhe-1 antibody at 2.5 µg/mL.





Immunofluorescence of Nhe-1 in Human Brain tissue with Nhe-1 antibody at 20 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.