

Product Specification Sheet

Na⁺/H⁺ Exchanger 7 (NHE7) Antibodies

Cat. NHE71-S	Rabbit Anti-Human NHE7 antiserum #1	SIZE: 100 ul
Cat. NHE71-A	Rabbit Anti-Human NHE7 (aff pure) IgG #1	SIZE: 100 ug
Cat. NHE71-P	Human NHE7 Control/blocking peptide	SIZE: 100 ug

Na⁺/H⁺ exchangers (**NHE**) of mammalian cells are plasma membrane intrinsic proteins mediating exchange of N⁺ and H⁺ ions in various tissues. The NHE catalyzes the electroneutral transport of extracellular Na⁺ for intracellular H⁺. They play a major role in regulation of intracellular pH (pHi) in addition to trans-cellular absorption of Na⁺, cell volume regulation and possibly in cell proliferation. These primary functions of the Na⁺/H⁺ exchanger have been related to many pathophysiological states, include hypertension, organ growth and hypertrophy, regression of cancer and renal intestinal disorders. At least 7 NHE isoforms (**NHE1-7**) have been cloned so far. They are all similar in their primary structure and predicted to have 10-12 transmembrane domains. The C-terminal domain of NHEs are predicted to be intracellular.

NHE7 (human 725 aa, chromosome Xp11.4) is ubiquitously expressed, and predominantly localizes to the trans-golgi network. NHE7 mediates the influx of Na⁺ or K⁺ in exchange for H⁺. It is ~70% related to NHE6 but relatively less (~25%) homologous with other NHEs.

FUNCTION: Mediates electroneutral exchange of protons for Na(+) and K(+) across endomembranes. May contribute to Golgi volume and cation homeostasis.

SUBCELLULAR LOCATION: Golgi apparatus, trans-Golgi network membrane; Multi-pass membrane protein.

SIMILARITY: Belongs to the Na(+)/H(+) exchanger (TC 2.A.36.5.1) family [view classification].

Protein name Sodium/hydrogen exchanger 7

Synonyms Na(+)/H(+) exchanger 7, NHE-7

Solute carrier family 9 member 7

Gene name Name: SLC9A7 ; Synonyms: NHE7

Source of Antigen and Antibodies

Antigen	17aa peptide of Human NHE7/SLC9A7 ; (Gene Accession #Q96T83) Designated (NHE71-P or control peptide) , conjugated to KLH; Epitope location ~N-terminus, Extracellular
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat #NHE71-S) Aff pure IgG (cat #NHE71-A) purified over the antigen column
2-ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:100K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: Not tested. we recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue.

Specificity & Cross-reactivity

Human NHE71-P sequence has no significant sequence homology with other NHE isoforms (NHE1-6). NHE71-P is 100% conserved in Chimp, 94% in mouse (isoforms 1 and 2), and rat NHE7. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: www.4adi.com/data/abblock.html).

General References: (1) Numata M et al (2001) JBC 276, 17386-17394; Chris Yun CH et al (1995) Am J Physiol. 269, G1-G11 (Review); Josette N and Pouyssegur J (1995) Am J Physiol. 268, C283-C296 (review).

Citations of ADI's antibodies for NHE7 (see updated list at: www.4adi.com/flr/nheflr.html)

Smith DR 2004 Experimental Cell Research, Volume 298, Issue 2, 15 August 2004, Pages 521-534 WB, IHC

*This product is for in vitro research use only.

Some New Antibodies from ADI...

- NHE1-7, NCX, KCX, NBCs, AE, AQP

Western Blot recycling kit (Use the same blot to probe with multiple antibodies) **recycle blot at room temp in 5-10 min; No mercaptoethanol or heating required).**

NHE71-S-A-P

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