ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Na+/H+ Exchanger 6 (NHE6) Antibodies

Cat. NHE61-S	Rabbit Anti-Human NHE6 antiserum #1	**SIZE**: 100 ul
Cat. NHE61-A	Rabbit Anti-Human NHE6 (aff pure) IgG#1	**SIZE**: 100 ug
Cat. NHE61-P	Human NHE6 Control/blocking peptide 31	**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 electroneural 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. A mammalian homolog of yeast NHA2 has been identified and classified as **NHE6** (KIAA0267). NHE6 is 669 aa (mol wt ~75 kDa), and predicted to contain 12 TM domains within the cytoplasmic N-terminus, the C-terminus may reside in the matrix. NHE6 is ubiquitously expressed but it is most abundant in mitochondrial-rich tissues such as brain, skeletal muscle, and heart.

FUNCTION: Electroneutral exchange of protons for Na(+) and K(+) across the mitochondrial inner membrane. Contributes to organellar volume and calcium homeostasis.
SUBCELLULAR LOCATION: Mitochondrion 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 6
Synonyms Na(+)/H(+) exchanger 6, NHE-6
Solute carrier family 9 member 6
Gene name Name: SLC9A6 ; Synonyms: KIAA0267, NHE6

Source of Antigen and Antibodies

Antigen	18-aa peptide of Human NHE6/SLC9A6; (gene accession # Q92581) **Designated (NHE61-P or control peptide /blocking peptide**) conjugated to KLH; Epitope location ~ C-terminus, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (**#NHE61**-S) and IgG, purified over antigen-agarose (Cat # **NHE61**-A)
2-Ab	Cat # 20320, **goat anti-rabbit IgG-HRP** (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 ECL). NHE6 has a calculated mol wt of ~75 kDa. (see published refs using this antibody in 2).

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

Histochemistry & Immunofluorescence: we recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue. (see published refs using this antibody in 2).

Specificity & Cross-reactivity

Human NHE61-P sequence has no significant sequence homology with other NHE isoforms (NHE1-5). It is 77% conserved in mouse and rat NHE6. 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 (1998) J. Biol. Chem. 272, 6951-6959; Nagase T et al (1996) DNA Res. 3, 321-329; 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).

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

Smith DR, 2004. Exp. Cell Research, 298, 521-534 WB, IHC

*This product is for in vitro research use only.

Some related Antibodies from ADI…

• NHE1-7, NCX, KCX, NBCs, AE, AQPs

NHE61-S-A-P 100315A

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