ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

NHERF1 Subunit Antibodies

Cat. # NHERF11-P	HumanNHERF1 1 control/blocking peptide # 1	**SIZE**: 100 ug
Cat. # NHERF11-A	**Rabbit** Anti-Human NHERF1 1 IgG # 1 (aff pure)	**SIZE**: 100 ug

Na+/ H+ exchanger regulatory factor (**NHERF1**) is a PDZ domain containing adaptor protein known to bind to various receptors, channels, cytoskeletal elements and cytoplasmic signaling proteins. A 358aa mainly expressed in kidney, liver and pancrease by NHERF gene (chrm 17). And is represented in another isoform, NHERF2.
NHERF1 protein contains 2 tandem PDZ domains of approximately 90aa and a C-terminal sequence that binds several members of the ERM (ezrin-radixin-moesin) family of membrane cytoskeletal adapters. The protein plays an important role in regulation of NHE3, turnover of G-protein coupled receptors, platelet derived growth factor receptor and ion transporters such as CFTR, Na/Pi cotransporter, NaHCO3 cotransporter and Trp channels.

NHERF1 overexpression in cancers and mutations in NHERF1 targets, Merlin, the product of tumor suppressor gene, also expressed in 2 isoforms, Merlin is involved in pathogenesis of benign tumors of the human nervous system, Merlin is named for its striking similarity with ERM family which thought to link cytoskeletal components with proteins in the cell membrane, It has a binding partner called Syntenin, which is an adapter protein that couples transmembrane proteoglycans to cytoskeletal components.

FUNCTION: Scaffold protein that connects plasma membrane proteins with members of the ezrin/moesin/radixin family and thereby helps to link them to the actin cytoskeleton and to regulate their surface expression. Necessary for recycling of internalized ADRB2.
SUBCELLULAR LOCATION: Intracytoplasmic membrane; Peripheral membrane protein. Cell projection, filopodium. Cell projection, ruffle. Cell projection, microvillus. Note=Colocalizes with actin in microvilli-rich apical regions of the syncytiotrophoblast. Found in microvilli, ruffling membrane and filopodia of HeLa cells. Present in lipid rafts of T-cells.
SIMILARITY: Contains 2 PDZ (DHR) domains.
Protein name Ezrin-radixin-moesin-binding phosphoprotein 50
Synonyms EBP50
Na(+)/H(+) exchange regulatory cofactor NHE-RF
NHERF-1
Regulatory cofactor of Na(+)/H(+) exchanger
Sodium-hydrogen exchanger regulatory factor 1
Solute carrier family 9 isoform 3 regulatory factor 1
Gene name Name: SLC9A3R1 Synonyms: NHERF

Source of Antigen and Antibodies

Antigen	14-aa peptide from Human **NHERF1**/SLC9A3R1; protein accession #O14745 , refs 1 **Designation (NHERF1 1-P, control peptide**) conjugated to KLH; Epitope location ~C-terminus Intracellular domain
Ab Host/type	Rabbit, Polyclonal Aff pure IgG (cat # NHERF1 1-A) purified over the antigen column
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

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 (1-10 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of aff pure IgG at 2-20 ug/ml.

Specificity & Cross-reactivity

The Human NHERF1 1-P control peptide is 92% conserved in mouse, rabbit, and rat. Antibody cross-reactivity in various species has not been studied. 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: Edward J. Weinman et al (2001) JBC 276, 42339-42346; Junqi He et al (2001) JBC 276, 41559-41565; Anita Murthy et al (1997) JBC 273, 1273-1276; Mehrdad Jannatipour et al (2001) JBC 276, 33093-33100; Edward J. Weinman et al (2001) Jour. Of Clinical Investigation, 108, 185-186.

*This product is for In vitro research use only.

Related material available from ADI

Antibodies and Peptides: NHERF isoforms, Merlin (Sch) isoforms, and Syntenin.

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; **Fax**: (210) 561-9544; **Web Site**: www.4adi.com