ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

Epithelial Na-Channel α (ENAC α) Antibodies

Cat. # ENACa11-P	Rat ENACα Control Peptide #1	**SIZE**: 100 ug
Cat. # ENACa11-S	**Rabbit** Anti-rat ENACα Antiserum #1	**SIZE**: 100 ul
Cat. # ENACa11-A	**Rabbit** Anti-rat ENACα Ig G#1 (affinity pure)	**SIZE**: 100 ug

Tissue acidosis (decrease in pH below the physiological level) that occurs in ischemia, tissue damage or inflammation is accompanied by pain. At the molecular level, H+-gated cation channels are activated by low pH in nociceptive neurons. H+-gated cation channels, members of the **NaC/DEG superfamily** of Na channels that include **amiloride-sensitive epithelial Na+ channel proteins (α, β, and γ, and δ-ENaC subunits),** are expressed in epithelia of the vertebrate kidney, colon, lung, tongue, and brain. The **ENaC** subunits may form heterotrimeric active Na channel. ENaCs are involved in Na and water readsorption, and salty taste transduction) of vertebrate colon, lung, kidney and tongue. The superfamily of DEG/NaC proteins are characterized by intracellular N and C-termini, two TM domains, and a large extracellular loop.

ENaC-α subunits have been cloned from various tissues and from several species (human 669 aa, rat 698 aa, mouse 699 aa; ~80% inter-species homology). It controls the reabsorption of Na in kidney, colon, lung, and sweat glands. ENaC-α has also been implicated in taste perception. Defects in ENaC-α are one of the cause of pseudohypoaldosteronism type I, a rare salt wasting disease characterized by dehydration, hyponatacemia, hyperkalemia, and acidosis. Inactivation of ENaC-α in transgenic mice causes an early death due to defective lung liquid clearance.

Source of Antigen and Antibodies

Antigen	20aa peptide of rat ENACα; **Designated (ENACA11-P or control peptide). epitope location ~ N-terminus**
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat #ENAC11-S) Aff pure IgG1 (**cat #ENACA11-A**)
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	**# 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 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 antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 2-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

The 20 AA rat ENACA11-P control peptide sequence homology is: 90% in mouse, 75% in human, 70% in rabbit, 65% in bovine ENACα. No significant homology is detected with ENAC β, γ, δ subunits. 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 the web site).

General References: (1) Linguela E et al (1993) FEBS Lett. 318, 95-99; Canessa CM et al (1993) Nature 361, 467-470; Snyder PM et al (1994) J. Biol. Chem. 269, 24379-83; Waldmann R et al (1995) J. Biol. Chem. 270, 11735-11737; Kreutz R et al (1997) Hypetension 29, 131-136; Voilley N et al (19940 Proc. Natl. Acad. Sci. 91, 247-251; McDonald FJ et al (1994) Am. J. Physiol. 266, L728-L734; Ludwig M et al (1998) Human Genet. 102, 576-

2. Citations of for ADI Antibodies (see updates at the web site)

Lordache C, 2007, Experimental Cell Research, 313, 305-311, WB
Faroqui SI, 2006, Am J Physiol Renal Physiol, 291, F322-F331, WB,
Choi JY, 2005, Hearing Res. 211, 26-32, WB,
Faroqui S, 2006, Am J Physiol Renal Physiol, 291, F322-F331, WB,
Velic A, 2005, American Journal of Transplantation,. 5, p1276-1285, WB, IHC
Velic A, 2005, Am. J. Transplantation 5, 6, 1276-1285, WB, IHC
Willis BC, 2003, Am J Physiol Renal Physiol, 285, 1192-1200, WB,
wade KC, 2006, Am. J. Respir. Cell Mol. Biol., 34, 727-737, WB, HC

*This product is for In vitro research use only.

Related material available from ADI
Chloride channel, ASIC, ENACs, K-Channels, Taste receptos, CNG-channels antibodies

ENACA11-S-A-P 71217A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A;

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400 Fax: +91-11-42208444 Email: customerservice@lifetechindia.com Website: www.lifetechindia.com