ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Epithelial Na-Channel γ (ENAC γ) Antibodies

Cat. # ENACg31-P	Rat ENAC γ Control Peptide #1	**SIZE**: 100 ug
Cat. # ENACg31-S	**Rabbit** Anti-rat ENAC γ, Antiserum #1	**SIZE**: 100 ul
Cat. # ENACg31-A	**Rabbit** Anti-rat ENAC γ Ig G#1 (aff 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-β subunit (mouse/rat 638 aa, human 640 aa), **ENaC-γ** subunit (mouse 655 aa, rat 650 aa, and human 649 aa) are expressed in lung, kidney, colon and other tissues. ENaC-β from various species are ~80% identical, and only ~30% similarity with the ENaC-α **ENaC-δ** (human 638 aa) is expressed mainly in brain, pancreas, testis, and ovary. It is 27-30% homologous with the other ENaCs. It can associate with β, and γ ENaC to form a functional channel.

Source of Antigen and Antibodies

Antigen	14aa peptide of rat ENAC-**γ Designated (ENACg31-P or control peptide).; epitope location ~ N-terminus, Extracellular domain**
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat #ENACg31-S) Aff pure IgG1 (**cat #ENACg31-A**) purified over antigen-agarose column
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 14 AA rat ENACg31-P control peptide sequence homology is: 100% in mouse, 92% in human, 80% in rabbit ENAC γ. No significant homology is detected with ENAC α, β, 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: Canessa CM et al (1993) Nature 361, 463-467; Linguela E et al (1994) J. Biol. Chem. 269, 13736-13739; Kreutz R et al (1997) Hypetension 29, 131-136; Voilley N et al (1995) Genomics 28, 560-565; McDonald FJ et al (1994) Am. J. Physiol. 268, 1157-1163;; Thomas CP et al (1996) 271, 26062-26066; Garty H LG (1997) Physiol. Reviews. 77, 359-396

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

Choi JY, 2005, Hearing Res. 211, 26-32, WB,
Qiao R, 2004, HUMAN GENE THERAPY 15:457–468, WB,
Iordache C, 2006, Experimental Cell Research, 313, 305-311, WB,
Cristia E, 2007, The Journal of Physiology, Volume 578, Issue 2: 413-424., , IHC
Lordache C, 2007, Experimental Cell Research, 313, 305-311, WB
Faroqui Somia/Amlal, 2006, Am J Physiol Renal Physiol, 291, F322-F331, WB,
Schmitt R, 2003, Am J Physiol Renal Physiol, ; 284: 1097 - 1104, WB, IHC

*This product is for In vitro research use only.

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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