

Product Specification Sheet

**Epithelial Na-Channel  $\gamma$  (ENAC  $\gamma$ ) Antibodies**

Cat. # ENACg31-P	Rat ENAC $\gamma$ Control Peptide #1	<b>SIZE:</b> 100 ug
Cat. # ENACg31-S	Rabbit Anti-rat ENAC $\gamma$ , Antiserum #1	<b>SIZE:</b> 100 ul
Cat. # ENACg31-A	Rabbit Anti-rat ENAC $\gamma$ Ig G#1 (aff pure)	<b>SIZE:</b> 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<sup>+</sup>-gated cation channels are activated by low pH in nociceptive neurons. H<sup>+</sup>-gated cation channels, members of the **NaC/DEG superfamily** of Na channels that include **amiloride-sensitive epithelial Na<sup>+</sup> channel proteins ( $\alpha$ ,  $\beta$ , and  $\gamma$ , and  $\delta$ -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 reabsorption, 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- $\beta$**  subunit (mouse/rat 638 aa, human 640 aa), **ENaC- $\gamma$**  subunit (mouse 655 aa, rat 650 aa, and human 649 aa) are expressed in lung, kidney, colon and other tissues. ENaC- $\beta$  from various species are ~80% identical, and only ~30% similarity with the ENaC- $\alpha$ . **ENaC- $\delta$**  (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  $\beta$ , and  $\gamma$  ENaC to form a functional channel.

**Source of Antigen and Antibodies**

<b>Antigen</b>	14aa peptide of rat ENAC- $\gamma$ <b>Designated (ENACg31-P or control peptide); epitope location ~ N-terminus, Extracellular domain</b>
<b>Ab Host/type</b>	Rabbit, polyclonal Unpurified antiserum (cat #ENACg31-S) Aff pure IgG1 (cat #ENACg31-A) purified over antigen-agarose column
<b>2-ab</b>	<b>Goat Anti-rabbit IgG-HRP</b> cat # 20320 (AP, biotin, FITC conjugates also available)
<b>-ve control IgG</b>	<b># 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control</b>

**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 -200C and powder at 40C or -200C..

**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 -200C or below.

**Shipping:** 40C 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  $\gamma$ . No significant homology is detected with ENAC  $\alpha$ ,  $\beta$ ,  $\delta$  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; Linguella E et al (1994) J. Biol. Chem. 269, 13736-13739; Kreutz R et al (1997) Hypertension 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,  
lordache 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.

**Related material available from ADI**

Chloride channel, ASIC, ENaCs, K-Channels, Taste receptors, CNG-channels antibodies  
ENACg31-S-A-P 71217A

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