ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Acid Sensing Ion Channels-β (ASIC-β) Antibodies

Cat. # ASICB12-P	Rat ASIC-β Control Peptide	**SIZE**: 100 ug
Cat. # ASICB12-S	Rabbit Anti-rat ASIC-β antiserum	**SIZE**: 100 ul
Cat. # ASICB12-A	Rabbit Anti-rat ASIC-β antiserum (affinity pure)	**SIZE**: 100 ug

Tissue acidosis that occurs in ischemia, tissue damage or inflammation is accompanied by pain. Proton-gated cation channels are activated by low pH in nociceptive neurons. H+-gated channels are members of the **NaC/DEG superfamily** that include: (1) Amiloride-sensitive epithelial Na+ channels (α, β, and γ, and δ-ENaC subunits); (2) A FMRFamide-gated channel (**FaNaC**), (3) and mechanosensory channel proteins of nematode **degenerins (DEG)**. NaC/DEG superfamily is characterized by intracellular N and C-termini, two transmembrane domains, and a large extracellular loop. All members of this family are selective for Na+ and blocked by amiloride.

The **m**ammalian homolog of **deg**enerins (**MDEG** or **MDEG1**; now designated ASIC for Acid Sensing Ion Channels). Three are at least three distinct proteins in ASIC family: **ASIC1** (identical with human BNAC2 or BNC2), expressed in brain and dorsal root ganglions (DRG) cells, is activated by pH <7.0. A splice variant of rat ASIC, **ASIC-β**, is expressed only in a subset of small and large diameter sensory neurons and absent in sympathetic neurons and CNS. **MDEG1/ASIC2,** 67% identity with ASIC1, requires more acidic pH than ASIC1 and has slower activation kinetic. **MDEG2/ASIC2b)**, a splice variant of MDEG1, is expressed in both brain and sensory neurons. MDEG2 is activated neither by mutations nor low pH. However, it acts as modulatory subunit when associated with MDEG1 and another H+-activated channel, **DRASIC/ASIC3** (Dorsal Root ganglion ASIC). DRASIC is specific for sensory neurons. In response to a drop in pH, DRASIC gives rise to a biphasic currents with poor discrimination between Na+ and K+. This sustained current may be important in pain sensation.

Source of Antigen and Antibodies

Antigen	18aa peptide of Rat ASIC-β ; **Designated (Gene Ascension #) (ASICB12-P or control peptide). Epitope location** ~ N-terminal, Extracellular
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat #ASICB12-S) Aff pure IgG1 (**cat #ASICB12A**) purified over the antigen column
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available

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
Reconstitute powder in PBS at 1mg/ml

Storage
Short-term: unopened, undiluted vials for less than a week at 4oC.

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 1-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

Rat ASICB12-P control peptide is not found in ASIC1/BNaC2. No significant sequence homology is detected with other ASICs. 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 :web site).

General References:

Chen CC et al (1998) PNAS 95, 10240-10245; Waldmann, R et al (1997) Nature, 386, 173-177; Garcia-Anoveros j et al (1997) PNAS 94, 1459-1464; Waldmann, R et al (1996) J Biol. Chem. 271, 10433.

*This product is for In vitro research use only.

Related material available from ADI

Pre-made BrainBlot (study distribution of proteins in 12-disntict regions of rat/mouse brain)

Recycle your blot in Just 5-10 min. (use the same blot for various ASIC). (no boiling or pungent mercaptoethanol).

ASICB12-S-A-P 70718A

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