

**Acid Sensing Ion Channels 1 (ASIC4) Antibodies**

|                 |   |                     |
|-----------------|---|---------------------|
| Cat. # ASIC41-P | Rat ASIC4 Control Peptide                 | <b>SIZE:</b> 100 ug |
| Cat. # ASIC41-S | Rabbit Anti-Rat ASIC4 antiserum           | <b>SIZE:</b> 100 ul |
| Cat. # ASIC41-A | Rabbit Anti-Rat ASIC4 IgG (affinity pure) | <b>SIZE:</b> 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<sup>+</sup>-gated channels are members of the **NaC/DEG superfamily** that include: (1) Amiloride-sensitive epithelial Na<sup>+</sup> channels ( $\alpha$ ,  $\beta$ , and  $\gamma$ , and  $\delta$ -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<sup>+</sup> and blocked by amiloride.

The mammalian homolog of **degenerins (MDEG or MDEG1; now designated ASICs for Acid Sensing Ion Channels)**. Three are at least 4 distinct proteins in ASIC family ASIC1-4. **ASIC4/BNAC4/SPASIC** (Rat 539/666 aa, chromosome 2; rat 539 aa, ~97% homology between rat and Rat) is strongly expressed in pituitary and also detected in most areas of brain. ASIC4 is the most divergent member of ASIC family showing only 45% identity with ASIC1-3. ASIC is not activated by low pH, and my associate with other ASICs to form a functional channel.

**Source of Antigen and Antibodies**

|                     |  |
|---------------------|--|
| <b>Antigen</b>      | 19aa peptide of Rat/human/mouse ASIC-4 ; <b>Designated (ASIC41-P or control peptide). Epitope location ~ N terminal, Extracellular</b> |
| <b>Ab Host/type</b> | Rabbit, polyclonal, Unpurified antiserum (cat # ASIC41-S) Aff pure IgG1 ( <b>cat #ASIC41-A</b> ) 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</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 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  
Supplied in Buffer: PBS pH 7.5,  
**Reconstitute powder in PBS at 1 mg/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). See refs 2.

**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:** see refs 2.

**Specificity & Cross-reactivity**

Rat ASIC41-P control peptide is 100% conserved in rat, mouse ASIC4. No significant sequence homology is detected with other ASIC-beta or 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:** Akopian AN et al (2000) Neuroprot. 14, 2217-2222; Grunder S et al (2000) Neuroprot. 14, 1607-1611

\*This product is for In vitro research use only.

**Related material available from ADI**

Antibodies ASIC1-3; EnaCs ( $\alpha$ ,  $\beta$ ,  $\gamma$ , and  $\delta$ ) KCNQ1-4; CNG1-4, Taste receptors 1/2, Vanniloid receptors (VR1 and VRL1)

Pre-made Brain Blot (study distribution of proteins in 12-distinct regions of rat/mouse brain)

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

ASIC41-S-A-P 71208S

**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](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)