

# ASIC2 (E-20): sc-22333

## BACKGROUND

Degenerin/epithelial sodium channel (DEG/ENaC) superfamily members are amiloride-sensitive sodium channels that contain intracellular N- and C-termini, two hydrophobic transmembrane regions and a cysteine-containing extracellular loop. Acid sensing ion channel ASIC1, also designated ACCN2, BNAC2 and ASIC1 $\alpha$ , is present in brain as a 4.3-kb transcript with localization to rat dorsal root ganglia. *In situ* hybridization of rat brain suggests that ASIC1 is most abundant in the main olfactory bulb, cerebral cortex, hippocampal formation, habenula, basolateral amygdaloid nuclei and cerebellum. ASIC1 and H<sup>+</sup>-gated currents may contribute to the development of fear and anxiety. ASIC2, also designated amiloride-sensitive cation channel 1, neuronal (ACCN1), mammalian degenerin, BNAC1 (MDEG) and brain Na<sup>+</sup> channel 1, mediates the normal detection of light touch. ASIC2 mRNA is abundant in brain, specifically in neurons. ASIC2 is expressed as 2.7- and 3.7-kb transcripts in brain and spinal cord tissues. ASIC3, also designated ASIC3, SLNAC1 and TNaC1, mediates detection of lasting pH changes and is involved in modulating moderate- to high-intensity pain sensation. ASIC4, also designated ACCN4 and BNAC4, is abundant in pituitary gland and is also present in the inner ear.

## CHROMOSOMAL LOCATION

Genetic locus: ASIC2 (human) mapping to 17q11.2; Asic2 (mouse) mapping to 11 B5.

## SOURCE

ASIC2 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ASIC2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22333 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ASIC2 (E-20) is recommended for detection of ASIC2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ASIC2 (E-20) is also recommended for detection of ASIC2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ASIC2 siRNA (h): sc-42409, ASIC2 siRNA (m): sc-42410, ASIC2 shRNA Plasmid (h): sc-42409-SH, ASIC2 shRNA Plasmid (m): sc-42410-SH, ASIC2 shRNA (h) Lentiviral Particles: sc-42409-V and ASIC2 shRNA (m) Lentiviral Particles: sc-42410-V.

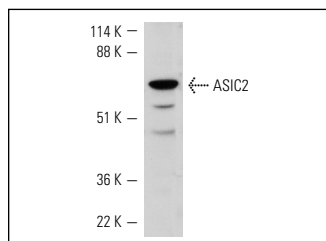
Molecular Weight of ASIC2: 65 kDa.

Positive Controls: rat brain extract: sc-2392.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



ASIC2 (E-20): sc-22333. Western blot analysis of ASIC2 expression in rat brain tissue extract.

## SELECT PRODUCT CITATIONS

- Montano, J.A., et al. 2009. The expression of ENaC and ASIC2 proteins in Pacinian corpuscles is differently regulated by TrkB and its ligands BDNF and NT-4. *Neurosci. Lett.* 463: 114-118.
- Kobayashi, H., et al. 2009. Sex differences in the expression profile of acid-sensing ion channels in the mouse urinary bladder: a possible involvement in irritative bladder symptoms. *BJU Int.* 104: 1746-1751.
- Lu, Y., et al. 2009. The ion channel ASIC2 is required for baroreceptor and autonomic control of the circulation. *Neuron* 64: 885-897.
- Radu, B.M., et al. 2014. Advanced type 1 diabetes is associated with ASIC alterations in mouse lower thoracic dorsal root ganglia neurons. *Cell Biochem. Biophys.* 68: 9-23.
- Wu, H., et al. 2015. Altered expression pattern of acid-sensing ion channel isoforms in piriform cortex after seizures. *Mol. Neurobiol.* E-published.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.