

ASIC4 (H-80): sc-292666

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 α , 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⁺-gated currents may contribute to the development of fear and anxiety. ASIC2, also designated ACCN1 (amiloride-sensitive cation channel 1, neuronal), mammalian degenerin, BNAC1 (MDEG) and brain Na⁺ channel 1, mediate 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 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.

REFERENCES

- Garcia-Anoveros, J., et al. 1997. BNAC1 and BNAC2 constitute a new family of human neuronal sodium channels related to degenerins and epithelial sodium channels. *Proc. Natl. Acad. Sci. USA* 94: 1459-1464.
- Waldmann, R., et al. 1997. A proton-gated cation channel involved in acid-sensing. *Nature* 386: 173-177.
- Price, M.P., et al. 2000. The mammalian sodium channel BNC1 is required for normal touch sensation. *Nature* 407: 1007-1011.
- Grunder, S., et al. 2001. Acid-sensing ion channel (ASIC) 4 gene: physical mapping, genomic organisation, and evaluation as a candidate for paroxysmal dystonia. *Eur. J. Hum. Genet.* 9: 672-676.
- Chen, C.C., et al. 2002. A role for ASIC3 in the modulation of high-intensity pain stimuli. *Proc. Natl. Acad. Sci. USA* 99: 8992-8997.
- Wemmie, J.A., et al. 2004. Overexpression of acid-sensing ion channel 1 α in transgenic mice increases acquired fear-related behavior. *Proc. Natl. Acad. Sci. USA* 101: 3621-3626.
- Jahr, H., et al. 2005. Identification of acid-sensing ion channels in bone. *Biochem. Biophys. Res. Commun.* 337: 349-354.

CHROMOSOMAL LOCATION

Genetic locus: ASIC4 (human) mapping to 2q35; Accn4 (mouse) mapping to 1 C4.

SOURCE

ASIC4 (H-80) is a rabbit polyclonal antibody raised against amino acids 246-325 mapping within an internal region of ASIC4 of human origin.

PRODUCT

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

APPLICATIONS

ASIC4 (H-80) is recommended for detection of ASIC4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

ASIC4 (H-80) is also recommended for detection of ASIC4 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for ASIC4 siRNA (h): sc-42411, ASIC4 siRNA (m): sc-42412, ASIC4 shRNA Plasmid (h): sc-42411-SH, ASIC4 shRNA Plasmid (m): sc-42412-SH, ASIC4 shRNA (h) Lentiviral Particles: sc-42411-V and ASIC4 shRNA (m) Lentiviral Particles: sc-42412-V.

Molecular Weight of ASIC4: 67 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.