

ASIC4 (D-3): sc-377063

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 a, 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 1a in transgenic mice increases acquired fear-related behavior. *Proc. Natl. Acad. Sci. USA* 101: 3621-3626.

CHROMOSOMAL LOCATION

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

SOURCE

ASIC4 (D-3) is a mouse monoclonal antibody raised against amino acids 246-325 mapping within an internal region of ASIC4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ASIC4 (D-3) is recommended for detection of ASIC4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 (D-3) is also recommended for detection of ASIC4 in additional species, including equine, canine, bovine 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.

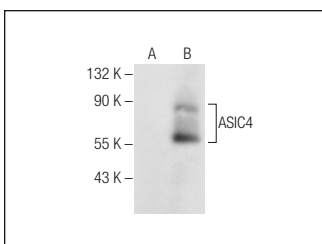
Molecular Weight of ASIC4: 67 kDa.

Positive Controls: ASIC4 (h4): 293T Lysate: sc-111050.

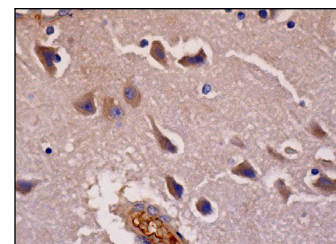
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ASIC4 (D-3): sc-377063. Western blot analysis of ASIC4 expression in non-transfected: sc-117752 (A) and human ASIC4 transfected: sc-111050 (B) 293T whole cell lysates.



ASIC4 (D-3): sc-377063. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells and endothelial cells and showing membrane staining of erythrocytes.

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.