

ASIC4 (h4): 293T Lysate: sc-111050

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

1. 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.
2. Waldmann, R., et al. 1997. A proton-gated cation channel involved in acid-sensing. *Nature* 386: 173-177.
3. Price, M.P., et al. 2000. The mammalian sodium channel BNC1 is required for normal touch sensation. *Nature* 407: 1007-1011.
4. 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.
5. 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.
6. 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.
7. Jahr, H., et al. 2005. Identification of acid-sensing ion channels in bone. *Biochem. Biophys. Res. Commun.* 337: 349-354.

CHROMOSOMAL LOCATION

Genetic locus: ACCN4 (human) mapping to 2q35.

PRODUCT

ASIC4 (h4): 293T Lysate represents a lysate of human ASIC4 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

ASIC4 (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive ASIC4 antibodies. Recommended use: 10-20 μ l per lane.

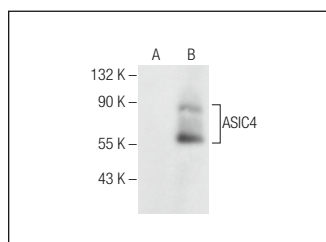
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ASIC4 (D-3): sc-377063 is recommended as a positive control antibody for Western Blot analysis of enhanced human ASIC4 expression in ASIC4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

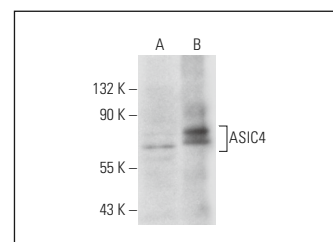
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

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 (E-5): sc-514636. Western blot analysis of ASIC4 expression in non-transfected: sc-117752 (A) and human ASIC4 transfected: sc-111050 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.