SANTA CRUZ BIOTECHNOLOGY, INC.

ASIC3 (K-13): sc-21845

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 ASIC1a, 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 amiloride-sensitive cation channel 1, neuronal (ACCN1), mammalian degenerin, BNAC1 (MDEG) and brain Na^+ 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.

REFERENCES

1. Price, M.P., et al. 1996. Cloning and expression of a novel human brain Na^+ channel. J. Biol. Chem. 271: 7879-7882.
2. Barbry, P., et al. 1997. Molecular biology of Na^+ absorption. Am. J. Physiol. 273: G571-G585.
3. Bubien, J.K., et al. 1999. Malignant human gliomas express an amiloride-sensitive Na^+ conductance. Am. J. Physiol. 276: C1405-C1410.

CHROMOSOMAL LOCATION

Genetic locus: ACCN3 (human) mapping to 7q36.1; Accn3 (mouse) mapping to 5 A3.

SOURCE

ASIC3 (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ASIC3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-21845 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

ASIC3 (K-13) is recommended for detection of ASIC3 isoforms a, b and c of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

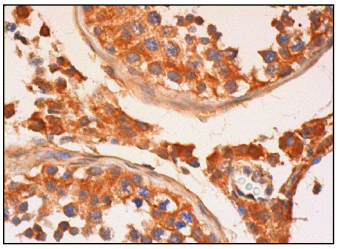
Suitable for use as control antibody for ASIC3 siRNA (h): sc-105101, ASIC3 siRNA (m): sc-141301, ASIC3 shRNA Plasmid (h): sc-105101-SH, ASIC3 shRNA Plasmid (m): sc-141301-SH, ASIC3 shRNA (h) Lentiviral Particles: sc-105101-V and ASIC3 shRNA (m) Lentiviral Particles: sc-141301-V.

Molecular Weight of ASIC3: 59 kDa.

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) 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™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ASIC3 (K-13): sc-21845. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. 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.
2. Lu, Y., et al. 2009. The ion channel ASIC2 is required for baroreceptor and autonomic control of the circulation. Neuron 64: 885-897.

RESEARCH USE

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