SANTA CRUZ BIOTECHNOLOGY, INC.

SK3 (H-45): sc-28621

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Small-conductance, calcium-activated K^+ channels (SK channels) are activated in a voltage-independent manner, and they have a small unit conductance and high sensitivity to calcium. SK channels 1-3 contain intracellular N- and C-termini and 6 conserved transmembrane segments. SK1 expression is restricted to the brain whereas SK2 and SK3 are more widely expressed. SK channels influence most excitable cells and participate in afterhyperpolarization (AHP) and spike-frequency adaptation. Human SK3 is a 731 amino acid protein that is expressed in muscles upon denervation, and it is a component of the presynaptic compartment in mature neuromuscular junctions. SK3 may also play a regulatory role in synaptic transmission.

REFERENCES

1. Kohler, M., et al. 1996. Small-conductance, calcium-activated potassium channels from mammalian brain. Science 273: 1709-1174.
2. Imbert, G., et al. 1996. Cloning of the gene for spinocerebellar ataxia 2 reveals a locus with high sensitivity to expanded CAG/glutamine repeats. Nat. Genet. 14: 285-291.

CHROMOSOMAL LOCATION

Genetic locus: KCNN3 (human) mapping to 1q21.3; Kcnn3 (mouse) mapping to 3 F1.

SOURCE

SK3 (H-45) is a rabbit polyclonal antibody raised against amino acids 101-145 mapping near the N-terminus of SK3 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.

APPLICATIONS

SK3 (H-45) is recommended for detection of SK3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SK3 (H-45) is also recommended for detection of SK3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SK3 siRNA (h): sc-37033, SK3 siRNA (m): sc-37034, SK3 shRNA Plasmid (h): sc-37033-SH, SK3 shRNA Plasmid (m): sc-37034-SH, SK3 shRNA (h) Lentiviral Particles: sc-37033-V and SK3 shRNA (m) Lentiviral Particles: sc-37034-V.

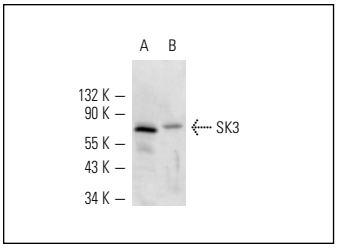
Molecular Weight of SK3: 70 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or rat skeletal muscle extract: sc-364810.

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.

DATA



SK3 (H-45): sc-28621. Western blot analysis of SK3 expression in PC-12 whole cell lysate (**A**) and rat skeletal muscle tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Cheng, Z., et al. 2011. Hyperhomocysteinemia impairs endothelium-derived hyperpolarizing factor-mediated vasorelaxation in transgenic cystathionine β synthase-deficient mice. Blood 118: 1998-2006.
2. Justo, M.L., et al. 2014. Microvascular disorders in obese Zucker rats are restored by a rice bran diet. Nutr. Metab. Cardiovasc. Dis. 24: 524-531
3. Kim, J.B., et al. 2014. The large-conductance calcium-activated potassium channel holds the key to the conundrum of familial hypokalemic periodic paralysis. Korean J. Pediatr. 57: 445-450.
4. Turner, R.W., et al. 2015. Neuronal expression of the intermediate conductance calcium-activated potassium channel KCa3.1 in the mammalian central nervous system. Pflugers Arch. 467: 311-328.

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.