SANTA CRUZ BIOTECHNOLOGY, INC.

SK3 (H-17): sc-16027

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.
3. Stocker, M., et al. 2000. Differential distribution of three Ca^{2+}-activated K^+ channel subunits, SK1, SK2, and SK3, in the adult rat central nervous system. Mol. Cell. Neurosci. 15: 476-493.
4. Rimini, R., et al. 2000. Quantitative expression analysis of the small conductance calcium-activated potassium channels, SK1, SK2 and SK3, in human brain. Brain Res. Mol. Brain Res. 85: 218-220.
5. Grunnet, M., et al. 2001. Pharmacological modulation of SK3 channels. Neuropharmacology 40: 879-887.
6. Roncarati, R., et al. 2001. Presynaptic localization of the small conductance calcium-activated potassium channel SK3 at the neuromuscular junction. Neuroscience 104: 253-262.

CHROMOSOMAL LOCATION

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

SOURCE

SK3 (H-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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.

Blocking peptide available for competition studies, sc-16027 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.

APPLICATIONS

SK3 (H-17) 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), 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-17) is also recommended for detection of SK3 in additional species, including equine, 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 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.

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.