SANTA CRUZ BIOTECHNOLOGY, INC.

KCNMB3 (N-12): sc-99949

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MaxiK channels are large conductance voltage and Ca^{2+}-activated potassium channels which are formed by tetramers of MaxiKα subunits, which create pores that are used for smooth muscle tone and neuronal excitability. These MaxiKα subunits have the ability to coassemble with MaxiKβ subunits that are structurally related and are able to regulate the function of MaxiKα subunits. KCNMB3 (potassium large conductance calcium-activated channel, subfamily M β member 3) is also known as Slo-β-3, K(VCA)β-3, Hβ3 or BKβ3 (BK channel subunit β-3) and is a 279 amino acid MaxiKβ subunit that is localized to the membrane with two transmembrane spanning domains, typical of MaxiKβ subunits. KCNMB3 exists as 4 isoforms and is expressed in a variety of tissues in an isoform-dependent manner. Isoforms 1, 3 and 4 have a wide range of expression, with isoforms 1 and 3 being highly expressed in pancreas and testis, in contrast to isoform 2 which is expressed in placenta, pancreas, kidney and heart. KCNMB3 affects MaxiK channels by allowing slightly faster activation rates of currents, leading to faster cellular excitability. However, KCNMB3 is also able to inactivate MaxiK channels which is an ability that is coded for in the 33 amino acid N-terminal region of the KCNMB3 protein. The human KCNMB3 gene is located on a region of chromosome 3 (specifically 3q26.2- 3q27) that is thought to be implicated in the pathogenesis of neurological abnormalities.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: KCNMB3 (human) mapping to 3q26.32.

SOURCE

KCNMB3 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of KCNMB3 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-99949 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KCNMB3 (N-12) is recommended for detection of KCNMB3 of 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); non cross-reactive with KCNMB2 or KCNMB4.

Suitable for use as control antibody for KCNMB3 siRNA (h): sc-78541, KCNMB3 shRNA Plasmid (h): sc-78541-SH and KCNMB3 shRNA (h) Lentiviral Particles: sc-78541-V.

Molecular Weight of KCNMB3: 32 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.

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.