SANTA CRUZ BIOTECHNOLOGY, INC.

KCNMB4 (K-14): sc-161767

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. KCNMB4 (potassium large conductance calcium-activated channel, subfamily M, β member 4), also known as Slo-β-4 or Maxi K channel subunit β-4, is a 210 amino acid multi-pass membrane protein belonging to the KCNMB family. Predominantly expressed in brain, KCNMB4 is a regulatory subunit of the calcium activated potassium MaxiKα channel. KCNMB4 contributes to MaxiKα channel diversity by modulating calcium sensitivity and gating kinetics of MaxiKα.

REFERENCES

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3. Brenner, R., et al. 2000. Cloning and functional characterization of novel large conductance calcium-activated potassium channel β subunits, hKCNMB3 and hKCNMB4. J. Biol. Chem. 275: 6453-6461.
4. Meera, P., et al. 2000. A neuronal β subunit (KCNMB4) makes the large conductance, voltage- and Ca^{2+}-activated K^+ channel resistant to charybdotoxin and iberiotoxin. Proc. Natl. Acad. Sci. USA 97: 5562-5567.
5. Jin, P., et al. 2002. Phosphorylation-dependent functional coupling of hSlo calcium-dependent potassium channel and its hβ 4 subunit. J. Biol. Chem. 277: 10014-10020.
6. Jin, P., et al. 2002. Reciprocal modulation between the α and β 4 subunits of hSlo calcium-dependent potassium channels. J. Biol. Chem. 277: 43724-43729.
7. Orio, P., Rojas, P., Ferreira, G. and Latorre, R. 2002. New disguises for an old channel: MaxiK channel β-subunits. News Physiol. Sci. 17: 156-161.

CHROMOSOMAL LOCATION

Genetic locus: KCNMB4 (human) mapping to 12q15; Kcnmb4 (mouse) mapping to 10 D2.

SOURCE

KCNMB4 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of KCNMB4 of human origin.

STORAGE

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

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-161767 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KCNMB4 (K-14) is recommended for detection of KCNMB4 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); non cross-reactive with KCNMB2 or KCNMB3.

KCNMB4 (K-14) is also recommended for detection of KCNMB4 in additional species, including equine, canine, bovine and porcine.

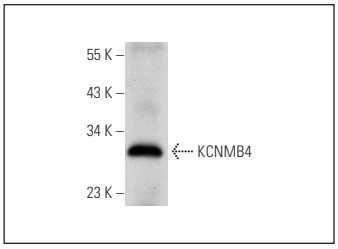
Suitable for use as control antibody for KCNMB4 siRNA (h): sc-96190, KCNMB4 siRNA (m): sc-146370, KCNMB4 shRNA Plasmid (h): sc-96190-SH, KCNMB4 shRNA Plasmid (m): sc-146370-SH, KCNMB4 shRNA (h) Lentiviral Particles: sc-96190-V and KCNMB4 shRNA (m) Lentiviral Particles: sc-146370-V.

Molecular Weight of KCNMB4: 24 kDa.

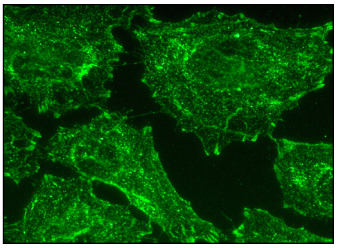
Molecular Weight of glycosylated KCNMB4: 32 kDa.

Positive Controls: mouse brain extract: sc-2253.

DATA



KCNMB4 (K-14): sc-161767. Western blot analysis of KCNMB4 expression in mouse brain tissue extract.



KCNMB4 (K-14): sc161767. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

RESEARCH USE

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