

KCNMB4 (B-6): sc-515712

BACKGROUND

MaxiK channels are large conductance voltage and Ca^{2+} -activated potassium channels which are formed by tetramers of MaxiK α subunits, which create pores that are used for smooth muscle tone and neuronal excitability. These MaxiK α subunits have the ability to coassemble with MaxiK β subunits that are structurally related and are able to regulate the function of MaxiK α 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 MaxiK α channel. KCNMB4 contributes to MaxiK α channel diversity by modulating calcium sensitivity and gating kinetics of MaxiK α .

REFERENCES

1. Berkovic, S.F. 1997. Epilepsy genes and the genetics of epilepsy syndromes: the promise of new therapies based on genetic knowledge. *Epilepsia* 38: S32-S36.
2. Behrens, R., et al. 2000. hKCNMB3 and hKCNMB4, cloning and characterization of two members of the large-conductance calcium-activated potassium channel β subunit family. *FEBS Lett.* 474: 99-106.
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 h β 4 subunit. *J. Biol. Chem.* 277: 10014-10020.

CHROMOSOMAL LOCATION

Genetic locus: KCNMB4 (human) mapping to 12q15.

SOURCE

KCNMB4 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 152-168 within an extracellular domain of KCNMB4 of human origin.

PRODUCT

Each vial contains 200 μg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KCNMB4 (B-6) is available conjugated to agarose (sc-515712 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-515712 HRP), 200 μg /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515712 PE), fluorescein (sc-515712 FITC), Alexa Fluor® 488 (sc-515712 AF488), Alexa Fluor® 546 (sc-515712 AF546), Alexa Fluor® 594 (sc-515712 AF594) or Alexa Fluor® 647 (sc-515712 AF647), 200 μg /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515712 AF680) or Alexa Fluor® 790 (sc-515712 AF790), 200 μg /ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

KCNMB4 (B-6) is recommended for detection of KCNMB4 of human origin by Western Blotting (starting dilution 1:100, 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).

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

Molecular Weight of KCNMB4: 24 kDa.

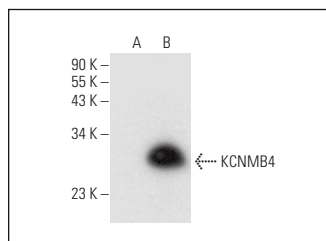
Molecular Weight of glycosylated KCNMB4: 32 kDa.

Positive Controls: KCNMB4 (h): 293T Lysate: sc-115563.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



KCNMB4 (B-6): sc-515712. Western blot analysis of KCNMB4 expression in non-transfected: sc-117752 (A) and human KCNMB4 transfected: sc-115563 (B) 293T whole cell lysates.

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 for detailed protocols and support products.

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