10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KCNMA1 Antibody (N-Term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21822a

Product Information

Application	WB, E
Primary Accession	Q12791
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB53642
Calculated MW	137560

Additional Information

Gene ID	3778
Other Names	Calcium-activated potassium channel subunit alpha-1, BK channel, BKCA alpha, Calcium-activated potassium channel, subfamily M subunit alpha-1, K(VCA)alpha, KCa11, Maxi K channel, MaxiK, Slo-alpha, Slo1, Slowpoke homolog, Slo homolog, hSlo, KCNMA1, KCNMA, SLO
Target/Specificity	This KCNMA1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 118-152 amino acids from human KCNMA1.
Dilution	WB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KCNMA1 Antibody (N-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KCNMA1 (HGNC:6284)
Synonyms	KCNMA, SLO
Function	Potassium channel activated by both membrane depolarization or increase

	in cytosolic Ca(2+) that mediates export of K(+) (PubMed:14523450, PubMed:29330545, PubMed:31152168). It is also activated by the concentration of cytosolic Mg(2+). Its activation dampens the excitatory events that elevate the cytosolic Ca(2+) concentration and/or depolarize the cell membrane. It therefore contributes to repolarization of the membrane potential. Plays a key role in controlling excitability in a number of systems, such as regulation of the contraction of smooth muscle, the tuning of hair cells in the cochlea, regulation of transmitter release, and innate immunity. In smooth muscles, its activation by high level of Ca(2+), caused by ryanodine receptors in the sarcoplasmic reticulum, regulates the membrane potential. In cochlea cells, its number and kinetic properties partly determine the characteristic frequency of each hair cell and thereby helps to establish a tonotopic map. Kinetics of KCNMA1 channels are determined by alternative splicing, phosphorylation status and its combination with modulating beta subunits. Highly sensitive to both iberiotoxin (IbTx) and charybdotoxin (CTX). Possibly induces sleep when activated by melatonin and through melatonin receptor MTNR1A- dependent dissociation of G-beta and G-gamma subunits, leading to increased sensitivity to Ca(2+) and reduced synaptic transmission (PubMed:32958651).
Cellular Location	Cell membrane; Multi-pass membrane protein
Tissue Location	Widely expressed. Except in myocytes, it is almost ubiquitously expressed.

Background

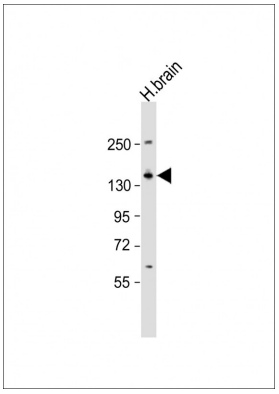
Potassium channel activated by both membrane depolarization or increase in cytosolic Ca(2+) that mediates export of K(+). It is also activated by the concentration of cytosolic Mg(2+). Its activation dampens the excitatory events that elevate the cytosolic Ca(2+) concentration and/or depolarize the cell membrane. It therefore contributes to repolarization of the membrane potential. Plays a key role in controlling excitability in a number of systems, such as regulation of the contraction of smooth muscle, the tuning of hair cells in the cochlea, regulation of transmitter release, and innate immunity. In smooth muscles, its activation by high level of Ca(2+), caused by ryanodine receptors in the sarcoplasmic reticulum, regulates the membrane potential. In cochlea cells, its number and kinetic properties partly determine the characteristic frequency of each hair cell and thereby helps to establish a tonotopic map. Kinetics of KCNMA1 channels are determined by alternative splicing, phosphorylation status and its combination with modulating beta subunits. Highly sensitive to both iberiotoxin (IbTx) and charybdotoxin (CTX).

References

Dworetzky S.I.,et al.Brain Res. Mol. Brain Res. 27:189-193(1994).
McCobb D.P.,et al.Am. J. Physiol. 269:H767-H777(1995).
Deloukas P.,et al.Nature 429:375-381(2004).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Tseng-Crank J.,et al.Neuron 13:1315-1330(1994).

Images

Anti-KCNMA1 Antibody (N-Term) at 1:500 dilution + human brain lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 138 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



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