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

Anti-KCNMA1 Picoband Antibody

Catalog # ABO11918

Product Information

Application	WB, IHC-P
Primary Accession	Q12791
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Calcium-activated potassium channel subunit alpha-1(KCNMA1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

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, KCa1.1, Maxi K channel, MaxiK, Slo-alpha, Slo1, Slowpoke homolog, Slo homolog, hSlo, KCNMA1, KCNMA, SLO
Calculated MW	137560
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Mouse, Rat, Human
Subcellular Localization	Cell membrane ; Multi-pass membrane protein .
Tissue Specificity	Widely expressed. Except in myocytes, it is almost ubiquitously expressed. .
Source	Eukaryota
Protein Name	Calcium-activated potassium channel subunit alpha-1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human KCNMA1 recombinant protein (Position: K124-Q467). Human KCNMA1 shares 99% amino acid (aa) sequence identity with both mouse and rat KCNMA1.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the potassium channel family. Calcium- activated (TC 1.A.1.3) subfamily. KCa1.1/KCNMA1 sub-subfamily.

Protein Information

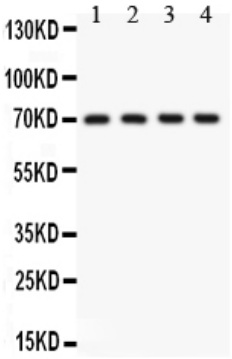
Name	KCNMA1 (HGNC:6284)
Synonyms	KCNMA, SLO
Function	Potassium channel activated by both membrane depolarization or increase in cytosolic Ca(2+) that mediates export of K(+) (PubMed:14523450, PubMed:29330545, PubMed:31152168). It is also activated by the concentration of cytosolic Mg(2+). Its activation 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

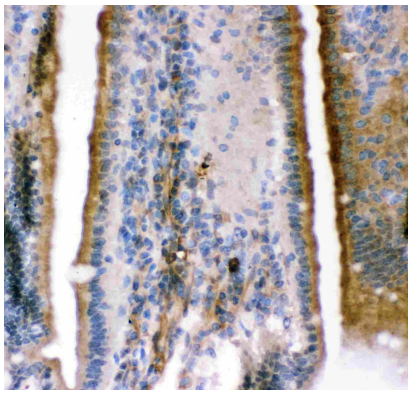
Calcium-activated potassium channel subunit alpha-1 also known as KCa1.1, or BK channel for short, is a voltage gated potassium channel encoded by the KCNMA1 gene and characterized by their large conductance of potassium ions (K+) through cell membranes. This gene is located on 10q22.3. BK channels are activated (opened) by changes in membrane electrical potential and/or by increases in concentration of intracellular calcium ion (Ca2+). It is essential for the regulation of several key physiological processes including smooth muscle tone and neuronal excitability. BK channels also contribute to the behavioral effects of ethanol in the worm C. elegans under high concentrations (> 100 mM, or approximately 0.50% BAC).It remains to be determined if BK channels contribute to intoxication in humans.

Images

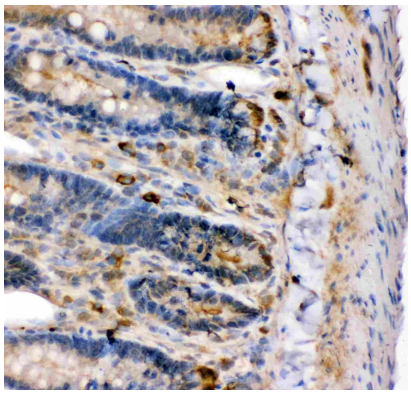
Anti- KCNMA1antibody, ABO11918, Western blottingAll lanes: Anti KCNMA1 (ABO11918) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Rat Testis Tissue



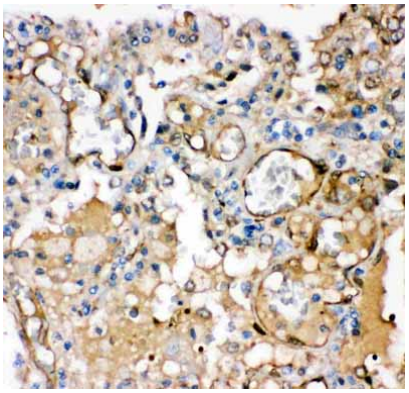
Lysate at 50ugLane 3: Mouse Brain Tissue Lysate at 50ugLane 4: Mouse Testis Tissue Lysate at 50ugPredicted bind size: 137KDObserved bind size: 70KD



Anti- KCNMA1antibody, ABO11918,IHC(P)IHC(P): Mouse Intestine Tissue



Anti- KCNMA1antibody, ABO11918,IHC(P)IHC(P): Rat Intestine Tissue



Anti- KCNMA1antibody, ABO11918,IHC(P)IHC(P): Human Lung Cancer Tissue

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.