

Anti-Maxi Potassium channel alpha/KCNMA1 Antibody Picoband™

Catalog Number: PB9227

About KCNMA1

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.

Overview

Product Name	Anti-Maxi Potassium channel alpha/KCNMA1 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Maxi Potassium channel alpha/KCNMA1 Antibody Picoband™ catalog # PB9227. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.01mg NaN ₃ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q12791

Technical Details

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.
Predicted Reactive Species	Bovine, Hamster, Horse, Monkey, Rabbit
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized

Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml, Human Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat, By Heat

Anti-Maxi Potassium channel alpha/KCNMA1 Antibody Picoband™ (PB9227) Images

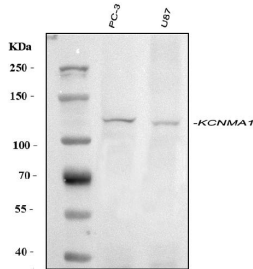


Figure 1. Western blot analysis of KCNMA1 using anti-KCNMA1 antibody (PB9227). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions. Lane 1: human PC-3 whole cell lysates, Lane 2: human U87 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-KCNMA1 antigen affinity purified polyclonal antibody (Catalog # PB9227) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for KCNMA1 at approximately 110-138 kDa. The expected band size for KCNMA1 is at 138KD.

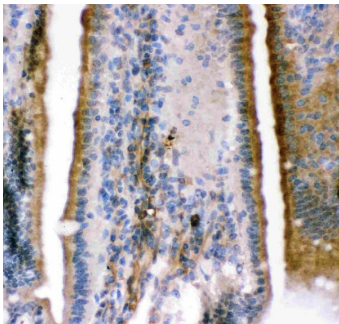


Figure 2. IHC analysis of KCNMA1 using anti-KCNMA1 antibody (PB9227). KCNMA1 was detected in paraffin-embedded section of mouse intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-KCNMA1 Antibody (PB9227) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

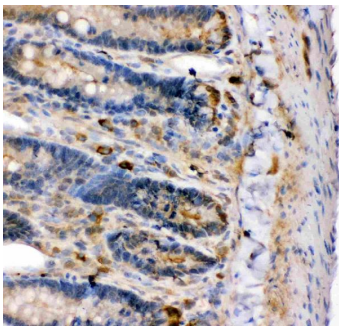
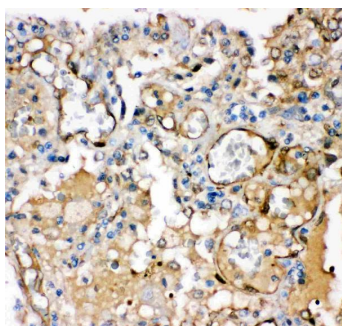


Figure 3. IHC analysis of KCNMA1 using anti-KCNMA1 antibody (PB9227). KCNMA1 was detected in paraffin-embedded section of rat intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-KCNMA1 Antibody (PB9227) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

Figure 4. IHC analysis of KCNMA1 using anti-KCNMA1 antibody (PB9227). KCNMA1 was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer



(pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-KCNMA1 Antibody (PB9227) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

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