

Product datasheet

Anti-Maxi Potassium channel alpha/SLO antibody [L6/60] ab192759

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Overview

Product name	Anti-Maxi Potassium channel alpha/SLO antibody [L6/60]
Description	Mouse monoclonal [L6/60] to Maxi Potassium channel alpha/SLO
Host species	Mouse
Tested applications	Suitable for: IHC-P, WB
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	Mouse and Rat Brain This antibody gave a positive result in IHC in the following FFPE tissue: Rat Normal Brain.
General notes	<p>This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com.</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C long term.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
Purity	Protein G purified
Clonality	Monoclonal
Clone number	L6/60

Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab192759 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		Use a concentration of 5 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		Use a concentration of 1 - 5 µg/ml. Detects a band of approximately 105 kDa (predicted molecular weight: 137 kDa).

Target

Function	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).
Tissue specificity	Widely expressed. Except in myocytes, it is almost ubiquitously expressed.
Involvement in disease	Generalized epilepsy and paroxysmal dyskinesia
Sequence similarities	Belongs to the potassium channel family. Calcium-activated (TC 1.A.1.3) subfamily. KCa1.1/KCNMA1 sub-subfamily. Contains 1 RCK N-terminal domain.
Domain	<p>The S0 segment is essential for the modulation by the accessory beta subunits KCNMB1, KCNMB2, KCNMB3 and KCNMB4.</p> <p>The S4 segment, which is characterized by a series of positively charged amino acids at every third position, is part of the voltage-sensor.</p> <p>The pore-forming domain (also referred as P region) is imbedded into the membrane, and forms the selectivity filter of the pore. It contains the signature sequence of potassium channels that displays selectivity to potassium.</p> <p>The RCK N-terminal domain mediates the homotetramerization, thereby promoting the assembly of monomers into functional potassium channel. It includes binding sites for Ca(2+) and Mg(2+). The calcium bowl constitutes one of the Ca(2+) sensors and probably acts as a Ca(2+)-binding site. There are however other Ca(2+) sensors regions required for activation of the channel.</p> <p>The heme-binding motif mediates inhibition of channel activation by heme. Carbon monoxide-</p>

bound heme leads to increased channel activation.

Post-translational modifications

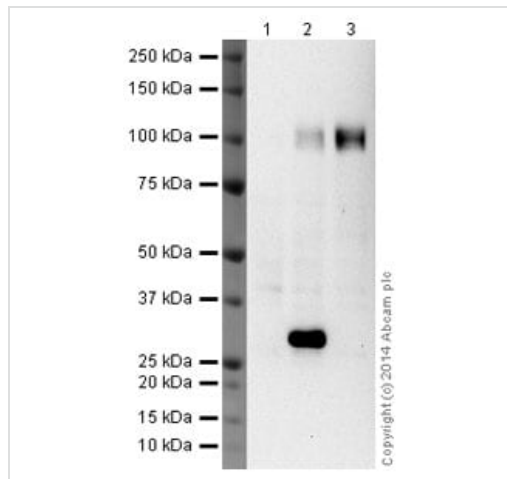
Phosphorylated (Probable). Phosphorylation by kinases such as PKA and/or PKG. In smooth muscles, phosphorylation affects its activity.

Palmitoylation by ZDHHC22 and ZDHHC23 within the intracellular linker between the S0 and S1 transmembrane domains regulates localization to the plasma membrane. Depalmitoylated by LYPLA1 and LYPLAL1, leading to retard exit from the trans-Golgi network.

Cellular localization

Cell membrane.

Images



Western blot - Anti-Maxi Potassium channel alpha/SLO antibody [L6/60] (ab192759)

All lanes : Anti-Maxi Potassium channel alpha/SLO antibody

[L6/60] (ab192759) at 5 µg/ml

Lane 1 : Human brain tissue lysate - total protein ([ab29466](#))

Lane 2 : Mouse brain tissue lysate

Lane 3 : Rat brain tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : Goat Anti-Mouse IgG H&L (HRP) preadsorbed

([ab97040](#)) at 1/50000 dilution

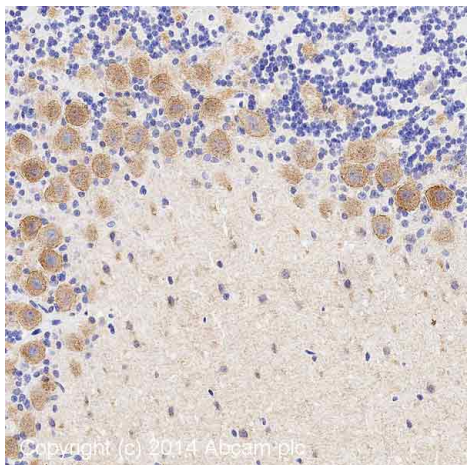
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 137 kDa

Additional bands at: 110 kDa, 28 kDa (possible non-specific binding). We are unsure as to the identity of these extra bands.

Exposure time: 20 minutes



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Maxi Potassium channel alpha/SLO antibody [L6/60] (ab192759)

IHC image of Maxi Potassium channel alpha/SLO antibody [L6/60] staining in rat normal brain formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab192759, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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