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ProductInformation

Anti-Potassium Channel *slo*β2 (KCNMB2)
produced in rabbit, affinity isolated antibody

Catalog Number **K4764**

Product Description

Anti-Potassium Channel *slo*β2 (KCNMB2) (Calcium activated potassium channel β subunit 2; BKCa β subunit 2) is produced in rabbit using as immunogen the peptide (C)RHDEKRNIYQKIRDHDLLD, corresponding to amino acid residues 14-32 of human *slo*β2. The antibody is directed against the intracellular N-terminus, and is affinity purified on immobilized antigen.

Anti- Potassium Channel *slo*β2 recognizes rat Kcnmb2 (gene ID: 294961). It is identical with dog Kcnmb2. In mouse Kcnmb2, 18 out of 19 residues are identical (Gene ID predicted: 72413. The antibody has been used in immunoblotting and immunohistochemistry.

*slo*β2 is a member the regulatory β subunit family that controls the activity of the large conductance Ca^{2+}-activated K^+ channel $K_{Ca}1.1$. This family includes four members with a shared topology: two trans-membrane domains, short intracellular N- and C-termini and a large extracellular region and a distinct tissue distribution. *slo*β2 expression is relatively broad and includes expression in brain, heart, kidney adrenal chromaffin cells and ovary.

The $K_{Ca}1.1$ K^+ channel can be activated by either an increase in intracellular Ca^{2+} concentration or by membrane depolarization. The regulatory β subunits increase the sensitivity of the pore-forming $K_{Ca}1.1$ subunit to Ca^{2+} and membrane voltage and they may also change the channel pharmacology.

The *slo*β2 subunit is unique in that it is able to induce a rapid and complete inactivation of the $K_{Ca}1.1$ channel in a manner that closely resembles the ball-and-chain inactivation of the voltage-dependent K^+ (K_v) channels. In other words, the inactivation is dependent on a sequence in the N-terminal part of the *slo*β2 subunit that appears to block the mouth of the ion permeation pathway. *slo*β2 subunit appears to participate in the inactivation of the $K_{Ca}1.1$ channel in hippocampal CA1 neurons and adrenal chromaffin cells.

Reagent

Supplied as a lyophilized powder from phosphate buffered saline, pH 7.4, containing 1% BSA and 0.025% sodium azide.

Reconstitution

Reconstitute the lyophilized vial with 50 µL or 200 µL deionized water, depending on package size. Further dilutions should be made using a carrier protein such as BSA (1-3%).

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

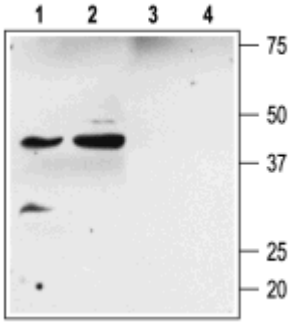
Lyophilized powder can be stored intact at room temperature for several weeks. For extended storage, it should be stored at -20 °C or below. The reconstituted solution can be stored at 2-8 °C for up to 2 weeks. For longer storage, freeze in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. Centrifuge before use. Working dilution samples should be discarded if not used within 12 hours. The antibody is stable for at least 12 months when stored appropriately.

Product Profile

Immunoblotting: a recommended working dilution of 1:200 was determined using rat kidney and heart membranes.

Immunohistochemistry: rat brain sections were used

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.



Immunoblot

Lanes 1 and 3 rat kidney membranes
Lanes 2 and 4 rat heart membranes:

Lanes 1 and 2 Anti-*slo*β2 antibody (1:200).
Lanes 3 and 4 Anti- *slo*β2 antibody, preincubated with the control peptide antigen.

References

1. Wallner, M. *et al. Proc. Natl. Acad. Sci. USA* **96**, 4137 (1999).
2. Xia, X.M. *et al. J. Neurosci.* **19,** 5255 (1999).
3. Orio, P. *et al. News Physiol. Sci.* **17,** 156 (2002).

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