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Product Information

Anti-Potassium Channel K_v11.3 (erg3)

produced in rabbit, affinity isolated antibody

Catalog Number **K0890**

Product Description

Anti-Potassium Channel K_v11.3 (Voltage gated K⁺ channel subfamily H member 7; KCNH7; ether-a-go-go-related channel 3) is produced in rabbit using a synthetic peptide CPEFLDLEKSKLKSKE corresponding to amino acids 1108-1123 of rat K_v11.3 as immunogen. Gene ID 170739 (Kcnh7). This antibody is directed against an intracellular epitope of the C-terminal part of K_v11.3. This epitope is identical in human (Gene ID 90134) and 15 out of 16 residues are identical in mouse (Gene ID 170738). The antibody is affinity purified on immobilized antigen.

Anti-Potassium Channel K_v11.3 recognizes the K_v11.3 protein in rat. It cross reacts with human and mouse. The antibody has been used in immunoblotting and immunohistochemistry.

The vast family of K⁺ channels has been subdivided into the three main subfamilies: the 2 TM, 4 TM and 6 TM K⁺ channels. The 6 TM family includes the voltage gated potassium (K_v) channels, the KCNQ channels, the EAG channels (also including the erg channels), and the calcium-activated potassium channels BK (Slo) and SK.

K_v11.3 (erg3) is a member of the *ether-a-go-go* (EAG) subfamily of voltage-dependent K⁺ channels. The erg subfamily includes the closely related proteins K_v11.1 (erg1) and K_v11.2 (erg2) that possess the signature structure of the voltage-dependent K⁺ channels: six membrane-spanning domains with intracellular N- and C-termini. As with all voltage-dependent K⁺ channels the functional channel is a tetramer composed of four subunits. It has been suggested that the K_v11 subfamily members can form functional heteromultimers within the subfamily.

The current of the K_v11.1 and K_v11.2 channels is that of a strong inward rectifier with slow activating kinetics. The K_v11.3 channel has different biophysical properties: it is a weak inward rectifier that is activated at negative potentials and has rapid activating kinetics.

K_v11.3 expression is believed to be concentrated mainly in the brain with the stronger expression detected in the cerebral cortex and hippocampus.

At the moment there is not much pharmacological information concerning K_v11.3 modulation, but the channel is inhibited (as are all K_v11 subfamily members) by the anti-arrhythmic E-4031 as well as by the anti-psychotic drugs sertindole and pimozide.

Reagent

Supplied as 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.

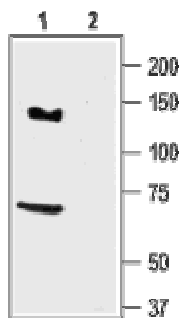
Storage/Stability

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. Avoid repeated freezing and thawing. 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 1:300 was determined using brain lysates.
Immunocytochemistry: used on rat brain sections.

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



Immunoblot of rat brain lysate

Lane 1. Anti- $K_v11.3(erg3)$ antibody, 1:300.

Lane 2. Anti- $K_v11.3(erg3)$ antibody, preincubated with the control peptide antigen

References

1. Shi. W.M. et al *J. Neurosci.* 17, 9423 . (1997).
2. Wimmers. S. et al. *Pflugers Arch.* **441**, 450 (2001).
3. Papa, M. et al *J. Comp. Neurol.* **466**, 119 . (2003).

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