

Product Information

Anti-Potassium Channel K_v1.3 (extracellular)

produced in rabbit, affinity isolated antibody

Catalog Number **P4497**

Product Description

Anti-Potassium Channel K_v1.3 (extracellular) was produced in rabbit using a synthetic peptide KDYPASTSQDSFEA(C) corresponding to amino acid residues 211-224 of human K_v1.3 as the immunogen. This sequence is extracellular, between the S1 and S2 domains. This sequence has 12/14 residues identical in rat and mouse. The antibody was affinity isolated on immobilized immunogen.

Anti-Potassium Channel K_v1.3 (extracellular) recognizes K_v1.3. Applications include the detection of Potassium Channel K_v1.3 (extracellular) by immunoblotting and flow cytometry. This antibody reacts with human and rat samples.

The action of potassium (K⁺) channels is regulated by voltage, calcium, and a variety of neurotransmitters. Each subfamily generally consists of a primary pore forming α subunit that is associated with several regulatory subunits.¹ There are at least 70 different genes that encode the α subunits of K⁺ channels. The crystal structure of the K⁺ channels has been identified.²

The vast family of K⁺ channels has been subdivided into three main subfamilies: the 2 TM, 4 TM, and 6 TM K⁺ channels.³ The voltage-gated K⁺ (K_v) channels belong to the 6 TM family of K⁺ channels. The first genes for K_v channels were isolated as naturally occurring mutations of the Shaker locus in the fruit fly *Drosophila melanogaster*. As a result, K_v channels are often referred to as Shaker-like channels.⁴ Three related genes, Shal, Shaw, and Shab were also cloned from *Drosophila*. Mutations of genes encoding voltage-sensitive K⁺ channels have been found to cause epilepsy, episodic ataxia/myokymia, and episodic cardiac arrhythmia (the long QT syndrome). The K_v1.3 channels are linked to cell proliferation, thus implicating this channel subtype in cancer.⁵ The K_v1.3 channels also regulate the immune system and are expressed in hematopoietic cells such as T and B lymphocytes, macrophages and natural killer cells.⁶

Reagent

Supplied as lyophilized powder from phosphate buffered saline containing 1% bovine serum albumin and 0.05% sodium azide.

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.

Preparation Instructions

To one vial of lyophilized powder, add 50 μ L or 0.2 mL (depending on the size purchased) of deionized water to produce a 0.8 mg/mL stock solution of antibody. Further dilutions should be made using a carrier protein such as BSA (1%).

Storage/Stability

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C for up to two weeks. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Immunoblotting: a working dilution of 1:200 to 1:500 is recommended using rat brain membranes and human Jurkat T lymphocytes.

Flow Cytometry: it is recommended to use 0.5-5 μ g antibody for 1 x 10⁶ cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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