



Product Information

Anti-Potassium Channel K_{2P}10.1 (TREK2)
(Anti-TWIK-Related Potassium Channel 2, KCNK10)
Developed in Rabbit, Affinity Isolated Antibody

Product Number **P 5122**

Product Description

Anti-Potassium Channel K_{2P}10.1 (TREK2) was developed in rabbit using a synthetic peptide TFRNYSLDEEKKEDETEKMC corresponding to amino acid residues 475-494 of rat K_{2P}10.1 as the immunogen. This sequence has 19/20 residues identical in human. The antibody was affinity isolated on immobilized immunogen.

Anti-Potassium Channel K_{2P}10.1 (TREK2) recognizes K_{2P}10.1 from human and rat samples. It has been successfully used in Western blot with rat cerebellum lysate, and immunohistochemistry with rat brain sections.

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 To date, some 70 different genes that encode the α subunits of K⁺ channels have been identified.

The vast family of K⁺ channels has been subdivided into the three main subfamilies: the 2 TM, 4 TM and 6 TM K⁺ channels.² K_{2P}10.1 (TREK2) is a member of the 4 TM potassium channel family, proteins that contain two-pore domain and four transmembrane domains. These channels are considered to be "leak" or "background" K⁺ channels, thereby generating background currents which help set the membrane resting potential and cell excitation.³ K_{2P} channels can be activated by a wide variety of stimuli. K_{2P}10.1 (TREK2) channels can be activated by polyunsaturated fatty acids, low intracellular pH, and mechanical stretch.⁴ K_{2P}10.1 mRNA expression has been detected in the brain (primarily in the cerebellum) and in peripheral tissues such as pancreas and kidney.⁵

Reagent

The antibody is supplied as lyophilized powder from phosphate buffered saline containing 1% bovine serum albumin and 0.025% sodium azide as preservative.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling.

Preparation Instructions

Reconstitute the lyophilized vial with either 0.05 ml or 0.2 ml deionized water, depending on the package size. Further dilutions should be made using a carrier protein such as BSA (1%).

Storage/Stability

Store at -20 °C. For extended 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.

Product Profile

The recommended working dilution is 1:200 for immunoblotting.

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

References

- Alexander, S.P., et al., Br. J. Pharmacol., **141**, Suppl 1:S1-S126 (2004).
- Gutman, G.A., et al., Pharmacol. Rev., **55**, 583-586 (2003).

3. Kim, Y., et al., J. Biol. Chem., **275**, 9340-9347 (2000).
4. Kim, D., Trends Pharmacol. Sci., **24**, 648-654 (2003).

5. Lesage, F., et al., J. Biol. Chem., **275**, 28398-28405 (2000).

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