



Product Information

ANTI-POTASSIUM CHANNEL TASK-1

Developed in Rabbit, Affinity Isolated Antibody

Product Number **P 0981**

Product Description

Anti-Potassium Channel TASK-1 (TWIK-Related Acid Sensitive K⁺ Channel, TASK, cTBAK-1, Kcnk3) is developed in rabbit using a highly purified peptide (C)EDEKRD AEHRALLTRNGQ (TASK-1²⁵²⁻²⁶⁹), corresponding to amino acid residues 252-269 of human TASK-1¹⁻³ with additional N-terminal cysteine as the immunogen. This sequence is highly conservative in mouse and rat TASK (17/18 residues identical).¹⁻³ The antibody was affinity isolated on immobilized TASK-1²⁵²⁻²⁶⁹.

Anti-Potassium Channel TASK-1 specifically recognizes TASK-1 and may be used to detect TASK-1 protein from human and rat by immunoblotting.

K⁺ channels are identified by a common structural motif, namely, a highly conserved signature sequence of eight amino acids in the P domain of each channel's pore-forming α -subunit. In 1995, a new family of K⁺ channels was described. Its first member, the yeast K⁺ channel TOC1, contains two P domains within one continuous polypeptide.⁵⁻⁷ It contains 8 transmembrane domains, thus, resembling a Shaker-like K⁺ channel fused with an IRK-like channel.

Later, two other two-pore K⁺ channels were found. Their structure is different from that of TOK1; they contain 4 transmembrane domains and 2 P domains (4TM/2P archetype), resembling a doubled IRK-like structure. The 4TM/2P K⁺ channels have been found in *Drosophila*,⁸ and in the plant, *Arabidopsis thaliana*.⁹ The nematode, *C. elegans*, has 9 different 4TM/2P K⁺ channels that make up the most diverse group of K⁺ channels in this organism.⁴ This is particularly striking considering the nervous system of *C. elegans* is comprised of only 302 neurons. In mammals, 9 different 4TM/2P K⁺ channels, designated as the KCNK family, have been cloned.

The 4TM/2P K⁺ channels vary from weak inward rectifying to outward rectifying according to their voltage-dependence. Some of the channels are completely voltage-independent and, thus, represent a novel group of "background channels".

Reagents

Anti-Potassium Channel TASK-1 is supplied lyophilized at approximately 0.6 mg/ml from phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin, 5% sucrose and 0.025% sodium azide.

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 hazardous and safe handling practices.

Preparation Instructions

Reconstitute the lyophilized vial with 0.05 ml or 0.2 ml deionized water, depending on the package size purchased. Antibody dilutions should be made in buffer containing 1-3% bovine serum albumin.

Storage/Stability

Prior to reconstitution, store at -20 °C. After reconstitution, the stock antibody solution may be stored at 4°C for up to 2 weeks. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended working dilution is 1:200 (3.0 μ g/ml) for immunoblotting using peroxidase conjugated-goat anti-rabbit IgG and detection by ECL.

Note: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

References

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