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Product Information

Anti-Potassium Channel $K_{IR}3.4$ (GIRK4)

(G protein-activated inward rectifier K^+ channel 4, KCNJ5)

Developed in Rabbit, Affinity Isolated Antibody

Product Number **P 5623**

Product Description

Anti-Potassium Channel $K_{IR}3.4$ (GIRK4) was developed in rabbit using a peptide, RNAMNQDMEIGVT(C), corresponding to residues 6-18 of rat $K_{ir}3.4$ (GIRK4) as the immunogen. This sequence is identical in human, pig, and mouse. The antibody was affinity isolated on immobilized immunogen.

Anti-Potassium Channel $K_{IR}3.4$ (GIRK4) recognizes $K_{IR}3.4$ (GIRK4) by Western blotting of rat heart membranes.

The vast family of K^+ channels has been subdivided into the three main subfamilies: the 2 TM, 4 TM and 6 TM K^+ channels.¹ The G-protein-activated inwardly rectifying potassium channels (GIRKS) are members of the 2 TM family, also known as inwardly-rectifying potassium (K_{IR}) channels. Inward rectifiers have two main physiological roles: to mediate transport across the cell membrane and to stabilize the resting membrane potential near the potassium equilibrium potential.² Four GIRKs, referred to as $K_{IR}3.1$ -3.4, have been identified in mammals.^{3,4} GIRK channels exist *in vivo* both as homotetramers and heterotetramers. $K_{IR}3.4$ subunits assemble with $K_{IR}3.1$ in the atrial and sinoatrial node cells of the heart and are involved in the regulation of cardiac rate.^{3,4}

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

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 4°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.

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

1. Gutman, G.A., et al., International Union of Pharmacology. XLI. Compendium of voltage-gated ion channels: potassium channels, *Pharmacol. Rev.*, **55**, 583-586 (2003).
2. Yamada, M. et al., G protein regulation of potassium ion channels, *Pharmacol. Rev.*, **50**, 723-760 (1998).
3. Mark, M.D. and Herlitze, S., G-protein mediated gating of inward-rectifier K^+ channels, *Eur. J. Biochem.*, **267**, 5830-5836 (2000).

4. Fleischmann B.K., et al., Differential subunit composition of the G protein-activated inward-rectifier potassium channel during cardiac development, J. Clin. Invest., **114**, 994-1001 (2004).

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