

## Product Information

### Anti-Potassium Channel K<sub>IR</sub>3.1 (GIRK1)

Developed in Rabbit, Affinity Isolated Antibody

Product Number **P 7997**

#### Product Description

Anti-Potassium Channel K<sub>IR</sub>3.1 (GIRK1) was developed in rabbit using a GST fusion protein with sequence LQRI SSVPG NSEK LVSKT TKMLS DPMSQ SVADL PPKLQ KMAGG PTRME GNLPA KLRKM NSDRF T, corresponding to residues 437-501 of mouse K<sub>IR</sub>3.1 (GIRK1) as the immunogen. This sequence is identical in rat, and has 64/66, 63/66, and 59/66 residues identical in human, guinea pig, and chicken, respectively. The antibody was affinity isolated on immobilized immunogen.

Anti-Potassium Channel K<sub>IR</sub>3.1 (GIRK1) recognizes K<sub>IR</sub>3.1 (GIRK1) by Western blotting of rat brain membranes.

The action of potassium (K<sup>+</sup>) channels is regulated by voltage, calcium and a variety of neurotransmitters. Each subfamily generally consists of a primary pore forming  $\alpha$  subunit that is associated with several regulatory subunits.<sup>1</sup> To date, some 70 different genes that encode the  $\alpha$  subunits of K<sup>+</sup> channels have been identified. Recently, the crystal structure of the K<sup>+</sup> channels has been identified.<sup>2</sup>

The vast family of K<sup>+</sup> channels has been subdivided into the three main subfamilies: the 2 TM, 4 TM and 6 TM K<sup>+</sup> channels.<sup>3</sup> The G-protein-activated inwardly rectifying potassium channels (GIRKS) are members of the 2 TM family, also known as inwardly-rectifying potassium (K<sub>IR</sub>) 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.<sup>4</sup> Four GIRKs, referred to as K<sub>IR</sub>3.1-3.4, have been identified in mammals.<sup>5</sup>

#### Reagent

The antibody is supplied as lyophilized powder from phosphate buffered saline containing 1% BSA, 5% sucrose, 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 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 at room temperature for several weeks. For extended storage, it should be stored at -20 °C. 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, and storage in "frost-free" freezers. 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. Alexander, S.P., et al., Br. J. Pharmacol., **141**, Suppl 1:S1-S126 (2004).
2. MacKinnon, R., FEBS Letters, **555**, 62-65 (2003).
3. Gutman, G.A., et al., Pharmacol. Rev., **55**, 583-586 (2003).
4. Yamada, M. et al., Pharmacol. Rev., **50**, 723-760 (1998).
5. Mark, M.D. and Herlitze, S., Eur. J. Biochem., **267**, 5830-5836 (2000).

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