



## Product Information

### Anti-Potassium Channel hK<sub>V</sub>11.1 (HERG, ether-a-go-go-related channel)

Developed in Rabbit, Affinity Isolated Antibody

Product Number **P 9497**

#### Product Description

Anti-Potassium Channel hK<sub>V</sub>11.1 (HERG) was developed in rabbit using a GST fusion protein with sequence DLSQVSQFM ACEELPPGAP ELPQEGPTRR LSLPGQLGAL TSQPLHRHGS DPGS, corresponding to residues 1106-1159 of human K<sub>V</sub>11.1 as the immunogen. The antibody was affinity isolated on immobilized immunogen.

Anti-Potassium Channel hK<sub>V</sub>11.1 recognizes hK<sub>V</sub>11.1 by Western blotting of the lysate of HEK 293 cells, stably expressing HERG. This sequence is identical in rabbit and has 51/54, 50/54, and 50/54 residues identical in dog, mouse, and rat, respectively. Homology with related proteins: rat erg2 - 22/54 residues identical; rat erg3 - 21/54 residues identical

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 6 TM family includes the voltage-gated potassium (K<sub>v</sub>) channels, the KCNQ channels, the EAG channels (also including the Herg channels), and the calcium-activated potassium channels BK (Slo) and SK. The Herg channel is crucial for normal action potential repolarization in cardiac myocytes and the drug-induced (antipsychotic therapy) long-QT syndrome is nearly always the result of blockage of this channel.<sup>4,5</sup>

#### Reagent

The antibody is supplied as lyophilized powder from phosphate buffered saline, pH 7.4, 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 1:400 for immunoblotting.

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

#### References

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- MacKinnon, R., FEBS Letters, **555**, 62-65 (2003).
- Gutman, G.A., et al., Pharmacol. Rev., **55**, 583-586 (2003).
- Vandenberg, J.I., et al., Trends Pharmacol. Sci., **22**, 240-246 (2001).
- Mitcheson, J.S., et al., Proc. Natl. Acad. Sci., USA, **97**, 12329-12333 (2000).

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