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Zuschläge

- Mindermengenzuschlag
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Kv1.4 Potassium Channel (NT). Rabbit Polyclonal Antibody

BACKGROUND

The Kv1.4 potassium channel is a voltage-gated channel protein which belongs to the delayed rectifier class and to the Shaker potassium channel subfamily which includes Kv1.1, Kv1.2, Kv1.3 and Kv1.5. Potassium channels are mainly found in plasma membranes but are not generally distributed over the cell surface. Potassium channels catalyze the rapid permeation of potassium ions while rejecting biologically abundant potential competitors such as sodium, calcium and magnesium. Ion selectivity and high throughput rate of potassium channels is accomplished by precise co-ordination of dehydrated potassium by the protein and multiple ion occupancy within the permeation pathway. All potassium channels carry out the formation of a transmembrane leak specific for potassium ions. Since cells almost universally maintain cytoplasmic potassium concentrations higher than those extracellularly, the opening of a potassium channel implies a negative ongoing change in electrical voltage across the cell membrane. This may result in termination of the action potential of electrically excitable cells including nerve, muscle and pancreatic beta cells. In non-excitabile cells, potassium channels play important roles in the cellular potassium recycling required for electrolyte balance effected by the renal epithelium.

IMMUNOGEN

Synthetic peptide derived from the N-terminus of the rat Kv1.4 potassium channel conjugated to KLH

POSITIVE CONTROL/TISSUE EXPRESSION

COMMENTS

This antibody can be used for Western blotting (5-10 µg/ml). Optimal concentration should be evaluated by serial dilutions.

ORDERING INFORMATION

CATALOG NUMBER

X1500P

SIZE

100 µg

FORM

Unconjugated

HOST/CLONE

Rabbit

FORMULATION

Provided as solution in phosphate buffered saline with 0.08% sodium azide

CONCENTRATION

See vial for concentration

ISOTYPE

IgG

APPLICATIONS

Western Blot

SPECIES REACTIVITY

Human, Mouse, Rat

ACCESSION NUMBER

,

PURIFICATION

Ammonium Sulfate Precipitation

SHIP CONDITIONS

Ship at ambient temperature, freeze upon arrival

STORAGE CUSTOMER

Product should be stored at -20°C. Aliquot to avoid freeze/thaw cycles

STABILITY

Products are stable for one year from purchase when stored properly

REFERENCES

1. Matsubara, H., et al. "Shaker-related potassium channel, Kv1.4, mRNA regulation in cultured rat heart monocytes and differential expression of Kv1.4 and Kv1.5 genes in myocardial development and hypertrophy." J. Clin. Invest. 1993, 92 1659-1666
2. Rasmusson, R.L., et al. "C-type inactivation control recovery in a fast inactivating cardiac K⁺ channel (Kv1.4) expressed in *Xenopus* oocytes." J. Physiol. 1995, 489, 709-721
3. Guo, W., et al. "Regulation of Kv4.2 and Kv1.4 K⁺ channel expression by myocardial hypertrophic factors in cultured newborn rat ventricular cells." J. Mol. Cell. Cardiol. 1998, 30, 1449-1455
4. Chanda, B., et al. "Transplanting the N-terminus from Kv1.4 to Kv1.1 generates an inwardly rectifying K⁺ channel." Neuroreport 1999, 10, 237-241