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Rabbit Anti-ROM-K/Kcnj1/APC Conjugated antibody

SL2960R-APC

Product Name	Anti-ROM-K/Kcnj1/APC
Chinese Name	APC 标记的 ATP 调节钾离子通道 ROM K 抗体
Alias	ROM K; ROM-K; inwardly rectifying subfamily J member 1; ATP regulated potassium channel ROM K; ATP sensitive inward rectifier potassium channel 1; ATP-regulated potassium channel ROM-K; ATP-sensitive inward rectifier potassium channel 1; Inward rectifier K(+) channel Kir1.1; inwardly rectifying K+ channel; IRK1_HUMAN; KCNJ 1; KCNJ; Kcnj1; Kir 1.1; Kir1.1; Potassium channel; Potassium channel inwardly rectifying subfamily J member 1; potassium inwardly-rectifying channel J1; ROMK 1; ROMK 2; ROMK; ROMK1; ROMK2.
Research Area	Cell biology Signal transduction Channel protein
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Rat(predicted:Human,Mouse,Dog,Pig,Cow,Horse,Rabbit)
Applications	Flow-Cyt=1ug/Test not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	45kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human ROM-K/KCNJ1
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Product Detail

background:
Potassium channels are present in most mammalian cells, where they participate in a wide range of physiologic responses. The protein encoded by this gene is an integral membrane protein and inward-rectifier type potassium channel. It is activated by internal ATP and probably plays an important role in potassium homeostasis. The encoded protein has a greater tendency to allow potassium to flow into a cell rather than out of a cell. Mutations in this gene have been associated with antenatal Bartter syndrome, which is characterized by salt wasting, hypokalemic alkalosis, hypercalciuria, and low blood pressure. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008].

Function:
In the kidney, probably plays a major role in potassium homeostasis. Inward rectifier potassium channels are characterized by a greater tendency to allow potassium to flow into the cell rather than out of it. Their voltage dependence is regulated by the concentration of extracellular potassium; as external potassium is raised, the voltage range of the channel opening shifts to more positive voltages. The inward rectification is mainly due to the blockage of outward current by internal magnesium. This channel is activated by internal ATP and can be blocked by external barium.

Subunit:
Interacts with SGK1 and SLC9A3R2/NHERF2.

Subcellular Location:
Membrane; Multi-pass membrane protein.

Tissue Specificity:
In the kidney and pancreatic islets. Lower levels in skeletal muscle, pancreas, spleen, brain, heart and liver.

Post-translational modifications:
Phosphorylation at Ser-44 by SGK1 is necessary for its expression at the cell membrane.

DISEASE:
Defects in KCNJ1 are the cause of Bartter syndrome type 2 (BS2) [MIM:241200]; also termed hyperprostanglandin E syndrome 2. BS refers to a group of autosomal recessive disorders characterized by impaired salt reabsorption in the thick ascending loop of Henle with pronounced salt wasting, hypokalemic metabolic alkalosis, and varying degrees of hypercalciuria. BS2 is a life-threatening condition beginning in utero, with marked fetal polyuria that leads to polyhydramnios and premature delivery.

Another hallmark of BS2 is a marked hypercalciuria and, as a secondary consequence, the development of nephrocalcinosis and osteopenia.

Similarity:
Belongs to the inward rectifier-type potassium channel (TC 1.A.2.1) family. KCNJ1 subfamily.

Database links:

Entrez Gene: 3758 Human

Entrez Gene: 56379 Mouse

Entrez Gene: 24521 Rat

Omim: 600359 Human

SwissProt: P48048 Human

SwissProt: O88335 Mouse

SwissProt: P35560 Rat

Unigene: 527830 Human

Unigene: 390168 Mouse

Unigene: 22609 Rat

Important Note:
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.