

Product datasheet for **TA328922**

Kcnj1 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	GST fusion protein with sequence HNF ^G KTVEVETPHCAMCLYNEKDARARMKRGYDNP ^N FLSEVDET DDTQM, corresponding to amino acids 342-391 of rat ROMK1, (MW: 33 kDa). [^] Intracellular, C-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.025% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	The serum was depleted of anti-GST antibodies by affinity chromatography on immobilized GST, and then the antibody was affinity purified on immobilized Kir1.1-GST.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	potassium voltage-gated channel subfamily J member 1
Database Link:	NP_058719 Entrez Gene 56379 Mouse Entrez Gene 24521 Rat



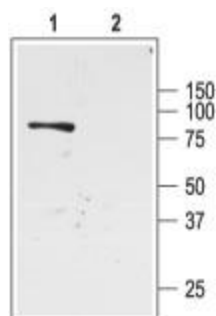
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Background:

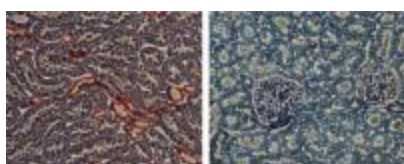
Kir1.1 (ROMK1) was the first member of the family of inward rectifying K⁺ channels to be cloned. The family includes 15 members that are structurally and functionally different from the voltage-dependent K⁺ channels. The family's topology consists of two transmembrane domains that flank a single and highly conserved pore region with intracellular N- and C-termini. As is the case for the voltage-dependent K⁺ channels the functional unit for the Kir channels is composed of four subunits that can assemble as either homo or heterotetramers. Kir channels are characterized by a K⁺ efflux that is limited by depolarizing membrane potentials thus making them essential for controlling resting membrane potential and K⁺ homeostasis. As its original name indicates (ROMK1 stands for Renal Outer Medullary K⁺ channel) Kir1.1 is strongly expressed in the kidney in the apical membrane of several kidney segments such as the thick ascending loop of Henle (TAL) and the cortical collecting duct (CCD). In addition, the channel is also expressed in the brain mainly in the cortex and hippocampus. Kir1.1 plays a key role in K⁺ recycling in the loop of Henle. Indeed, loss of function mutations in the Kir1.1 gene cause Bartter's syndrome type II, a recessive autosomal disease characterized by the impairment of K⁺ efflux and the subsequent inability of the NKCC2 transporter to continue NaCl uptake. This leads to a high salt concentration in the urine that induces osmotic diuresis and low plasma volume. Pharmacologically, the Kir1.1 channel can be inhibited by several general K⁺ channel blockers such as Tertiapin (#STT-250), however the scorpion toxin Lq2 (#RTL-550) specifically and potently inhibits Kir1.1 channels.

Synonyms:

Kir1.1; OTTHUMP00000045938; ROMK; ROMK1

Product images:

Western blot analysis of rat kidney membranes: 1. Anti-Kir1.1 (ROMK1) antibody, (1:200). 2. Anti-Kir1.1 (ROMK1) antibody, preincubated with the control antigen.



Expression of Kir1.1 in rat kidney. Immunohistochemical staining of rat kidney sections using Anti-Kir1.1 (ROMK1) antibody, (left). There is strong staining (red) of tubular epithelial cells in distal tubules. Note that no staining is observed in proximal tubules (arrow). Counterstain of cell nuclei appears blue. A negative control is shown (right).