

Rabbit anti-Human, Rat KCNK1 Polyclonal Antibody | anti-KCNK1 antibody

KCNK1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA324963	Rabbit	Human, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Western Blot

PRODUCT SYNONYMS

KCNK1; Polyclonal Antibody; KCNK1 Antibody; DPK; HOHO; HOHO1; inward rectifying potassium channel protein TWIK 1; Inward rectifying potassium channel protein TWIK-1; Inward rectifying potassium channel protein TWIK1; K2P1; K2p1.1; KCNK1_HUMAN; KCNO1; OTTHUMP00000036029; Potassium channel KCNO1; Potassium channel subfamily K member 1; Potassium inwardly rectifying channel subfamily K member 1; TWIK 1; TWIK1; anti-KCNK1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	KCNK1 antibody detects endogenous levels of total KCNK1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	336
Applicable Applications for anti-KCNK1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), WB (Western Blot)
Immunogen	A synthesized peptide
Subcellular Location	Membrane.
Tissue Specificity	Detected in bronchial epithelial cells (PubMed:21964404). Detected in heart left atrium and left ventricle (PubMed:17478540). Detected in cardiac myocytes (at protein level) (PubMed:21653227). Widely expressed with high levels in heart, brain and kidney, and lower levels in colon, ovary, placenta, lung and liver (PubMed:8605869, PubMed:9362344). Highly expressed in cerebellum, and detected at lower levels in amygdala, caudate nucleus, brain cortex, hippocampus, putamen, substantia nigra, thalamus, dorsal root ganglion, spinal cord, pituitary, heart, kidney, lung, placenta, pancreas, stomach, small intestine, uterus and prostate (PubMed:11165377). Detected in right and left heart ventricle and atrium, and in heart Purkinje fibers (PubMed:17478540). Detected in bronchial epithelial cells (PubMed:21964404).
Predicted Cross Reactivity	Pig, Bovine, Rabbit
Similarity	Pig (100%), Bovine (100%), Rabbit (92%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



WB (Western Blot)

Western blot analysis of extracts from Jurkat cells, using KCNK1 antibody.



IF (Immunofluorescence)

AAA324963 staining HeLa cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



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ADDITIONAL INFORMATION

Related Product Information for anti-KCNK1 antibody

Function: Ion channel that contributes to passive transmembrane potassium transport and to the regulation of the resting membrane potential in brain astrocytes, but also in kidney and in other tissues (PubMed:15820677, PubMed:21653227). Forms dimeric channels through which potassium ions pass in accordance with their electrochemical gradient. The channel is selective for K⁺ ions at physiological potassium concentrations and at neutral pH, but becomes permeable to Na⁺ at subphysiological K⁺ levels and upon acidification of the extracellular medium (PubMed:21653227, PubMed:22431633). The homodimer has very low potassium channel activity, when expressed in heterologous systems, and can function as weakly inward rectifying potassium channel (PubMed:8605869, PubMed:8978667, PubMed:15820677, PubMed:21653227, PubMed:22431633, PubMed:23169818, PubMed:25001086). Channel activity is modulated by activation of serotonin receptors (By similarity). Heterodimeric channels containing KCNK1 and KCNK2 have much higher activity, and may represent the predominant form in astrocytes (By similarity). Heterodimeric channels containing KCNK1 and KCNK3 or KCNK9 have much higher activity (PubMed:23169818). Heterodimeric channels formed by KCNK1 and KCNK9 may contribute to halothane-sensitive currents (PubMed:23169818). Mediates outward rectifying potassium currents in dentate gyrus granule cells and contributes to the regulation of their resting membrane potential (By similarity). Contributes to the regulation of action potential firing in dentate gyrus granule cells and down-regulates their intrinsic excitability (By similarity). In astrocytes, the heterodimer formed by KCNK1 and KCNK2 is required for rapid glutamate release in response to activation of G-protein coupled receptors, such as F2R and CNR1 (By similarity). Required for normal ion and water transport in the kidney (By similarity). Contributes to the regulation of the resting membrane potential of pancreatic beta cells (By similarity). The low channel activity of homodimeric KCNK1 may be due to sumoylation (PubMed:15820677, PubMed:20498050, PubMed:23169818). The low channel activity may be due to rapid internalization from the cell membrane and retention in recycling endosomes (PubMed:19959478). Subunit Structure: Homodimer; disulfide-linked (PubMed:8978667, PubMed:22282804). Heterodimer with KCNK2; disulfide-linked (By similarity). In astrocytes, forms mostly heterodimeric potassium channels with KCNK2, with only a minor proportion of functional channels containing homodimeric KCNK1 (By similarity). Interacts with KCNK3 and KCNK9, forming functional heterodimeric channels (PubMed:23169818). Interacts with GNG4 (By similarity). Identified in a complex with PSD and ARF6; interacts only with PSD that is bound to ARF6 (By similarity). Interacts with UBE2I (PubMed:15820677). Post-translational Modifications: Sumoylation is controversial. Sumoylated by UBE2I (PubMed:15820677). Not sumoylated when expressed in xenopus oocytes or mammalian cells (PubMed:17693262). Sumoylation inactivates the channel, but does not interfere with expression at the cell membrane (PubMed:15820677). Sumoylation of a single subunit is sufficient to silence the dimeric channel (PubMed:20498050, PubMed:23169818). Sumoylation of KCNK1 is sufficient to silence heterodimeric channels formed by KCNK1 and KCNK3 or KCNK9 (PubMed:23169818). Desumoylated by SENP1; this activates the channel (PubMed:15820677, PubMed:20498050, PubMed:23169818). Desumoylated by SENP1; this strongly increases halothane-mediated activation of heterodimeric channels formed with KCNK9 (PubMed:23169818). SENP1 treatment has no effect (PubMed:17693262). Similarity: Belongs to the two pore domain potassium channel (TC 1.A.1.8) family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4504847
NCBI GeneID	3775
NCBI Accession #	NP_002236.1
NCBI GenBank Nucleotide #	NM_002245.3
UniProt Accession #	O00180; Q13307; Q5T5E8
Molecular Weight	Observed: 38 kD Predicted: 39 kDa
NCBI Official Full Name	potassium channel subfamily K member 1
NCBI Official Synonym Full Names	potassium two pore domain channel subfamily K member 1
NCBI Official Symbol	KCNK1
NCBI Official Synonym Symbols	DPK; HOHO; K2P1; KCNO1; TWIK1; K2p1.1; TWIK-1
NCBI Protein Information	potassium channel subfamily K member 1
UniProt Protein Name	Potassium channel subfamily K member 1
UniProt Gene Name	KCNK1
UniProt Synonym Gene Names	HOHO11 PublicationManual assertion based on opinion iniRef.2

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/kcnk1-antibody-immunocytochemistry-immunofluorescence-western-blot-elisa/324963>