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# KCNK2 Rabbit pAb

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Catalog # AP56460

## Product Information

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| **Application** | IHC-P, IHC-F, IF |
| **Primary Accession** | O95069 |
| **Predicted** | Rat, Pig, Dog, Human, Mouse, Rabbit, Sheep |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 47093 |
| **Physical State** | Liquid |
| **Immunogen** | KLH conjugated synthetic peptide derived from human KCNK2 |
| **Epitope Specificity** | 1-100/426 |
| **Isotype** | IgG |
| **Purity** | affinity purified by Protein A |
| **Buffer** | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. |
| **SUBCELLULAR LOCATION** | Membrane. |
| **Important Note** | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| **Background Descriptions** | This gene encodes one of the members of the two-pore-domain background potassium channel protein family. This type of potassium channel is formed by two homodimers that create a channel that leaks potassium out of the cell to control resting membrane potential. The channel can be opened, however, by certain anesthetics, membrane stretching, intracellular acidosis, and heat. Three transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008] |

## Additional Information

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| **Gene ID** | 3776 |
| **Other Names** | Potassium channel subfamily K member 2, Outward rectifying potassium channel protein TREK-1, TREK-1 K(+) channel subunit, Two pore domain potassium channel TREK1 {ECO:0000303\|Ref.15}, Two pore potassium channel TPKC1, K2P2.1 {ECO:0000303\|Ref.15}, KCNK2 {ECO:0000303\|PubMed:11319556, ECO:0000312\|HGNC:HGNC:6277} |
| **Dilution** | IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000 |
| **Storage** | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |

## Protein Information

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| **Name** | KCNK2 {ECO:0000303\|PubMed:11319556, ECO:0000312\|HGNC:HGNC:6277} |
| **Function** | K(+) channel that conducts voltage-dependent outward rectifying currents upon membrane depolarization. Voltage sensing is coupled to K(+) electrochemical gradient in an 'ion flux gating' mode where outward but not inward ion flow opens the gate. Converts to voltage-independent 'leak' conductance mode upon stimulation by various stimuli including mechanical membrane stretch, acidic pH, heat and lipids. Reversibly converts between a voltage-insensitive K(+) 'leak' channel and a voltage-dependent outward rectifying K(+) channel in a phosphorylation-dependent manner (PubMed:10321245, PubMed:10784345, PubMed:11319556, PubMed:23169818, PubMed:30573346, PubMed:38605031). Homo- and heterodimerizes to form functional channels with distinct regulatory and gating properties (By similarity). In trigeminal ganglia sensory neurons, the heterodimer of KCNK2/TREK-1 and KCNK18/TRESK inhibits neuronal firing and neurogenic inflammation by stabilizing the resting membrane potential at K(+) equilibrium potential as well as by regulating the threshold of action potentials and the spike frequency (By similarity). At trigeminal A-beta afferent nerves, the heterodimer of KCNK2/TREK-1 and KCNK4/TRAAK is mostly coexpressed at nodes of Ranvier where it conducts voltage-independent mechanosensitive and thermosensitive currents, allowing rapid action potential repolarization, high speed and high frequence saltatory conduction on myelinated nerves to ensure prompt sensory responses (By similarity). In hippocampal astrocytes, the heterodimer of KCNK2/TREK-1 and KCNK1/TWIK-1 allows passive K(+) conductance under basal conditions, but changes ion selectivity and becomes permeable to L-glutamate and Cl(-) ions upon binding to G protein subunit GNG4 in stimulated astrocytes. Mediates rapid L-glutamate release in response to activation of G protein-coupled receptors, such as F2R and CNR1 (By similarity). In hippocampal pyramidal neurons, the homodimer of KCNK2/TREK-1 contributes to gamma-aminobutyric acid (GABA) B-induced slow inhibitory postsynaptic potential. Associates with AKAP5 and Gs-protein-coupled receptor B2AR at postsynaptic dense bodies and converts to a leak channel no longer sensitive to stimulation by arachidonic acid, acidic pH or mechanical stress, nor inhibited by Gq-coupled receptors but still under the negative control of Gs-coupled receptors (By similarity). Permeable to other monovalent cations such as Rb(+) and Cs(+) (By similarity). |
| **Cellular Location** | [Isoform 2]: Cell membrane; Multi-pass membrane protein [Isoform 4]: Endoplasmic reticulum membrane {ECO:0000250\|UniProtKB:Q920B6}; Multi-pass membrane protein |
| **Tissue Location** | [Isoform 3]: Detected in kidney, adrenal gland and brain where it is preferentially expressed in the amygdala but not found in thalamus, hypothalamus, hippocampus or substantia nigra |

## Background

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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.