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KCNK13 Antibody

Catalog # ASC11354

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9HB14
Other Accession	NP_071337, 16306555
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	45391
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	KCNK13 antibody can be used for detection of KCNK13 by Western blot at 0.5 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	56659
Other Names	Potassium channel subfamily K member 13, Tandem pore domain halothane-inhibited potassium channel 1, THIK-1, KCNK13
Target/Specificity	KCNK13; KCNK13 antibody is predicted to not cross-react with other KCNK protein family members.
Reconstitution & Storage	KCNK13 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	KCNK13 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KCNK13 {ECO:0000303|PubMed:24163367, ECO:0000312|HGNC:HGNC:6275}
Function	K(+) channel that conducts outward rectifying tonic currents potentiated by purinergic signals (PubMed:24163367, PubMed:25148687, PubMed:30472253, PubMed:38409076). Homo- and heterodimerizes to form functional channels with distinct regulatory and gating properties (PubMed:25148687, PubMed:40011745, PubMed:40011746, PubMed:40307591, PubMed:40178898). Contributes most of K(+) currents at the plasma membrane of resting microglia (PubMed:38409076). Maintains a depolarized

	membrane potential required for proper ramified microglia morphology and phagocytosis, selectively mediating microglial pruning of presynaptic compartments at hippocampal excitatory synapses (PubMed:38409076). Upon local release of ATP caused by neuronal injury or infection, it is potentiated by P2RY12 and P2RX7 receptor signaling and contributes to ATP-triggered K(+) efflux underlying microglial NLRP3 inflammasome assembly and IL1B release (PubMed:38409076).
Cellular Location	Cell membrane; Multi-pass membrane protein
Tissue Location	Expressed in microglia (at protein level).

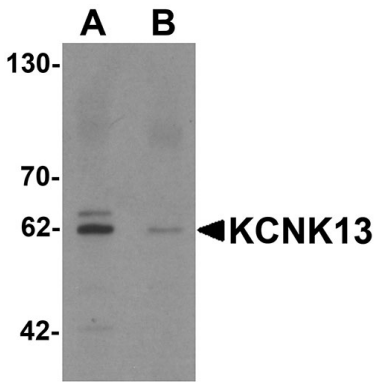
Background

KCNK13 Antibody: The closely related proteins KCNK13 and KCNK12 (also known as THIK1 and 2) are the first two members of a novel two pore-forming P domains K+ channels subfamily. The pore loop domain, a highly conserved region common to all potassium channels, is involved in determining potassium ion selectivity. Members of this family are all characterized by four transmembrane domains and may function to help influence the resting membrane potential of cells. KCNK13 is expressed mainly in the brain, but is also observed in kidneys. KCNK13 has been suggested to be a candidate for the Cs+-permeable K+ channel activated by GABA(B) receptors.

References

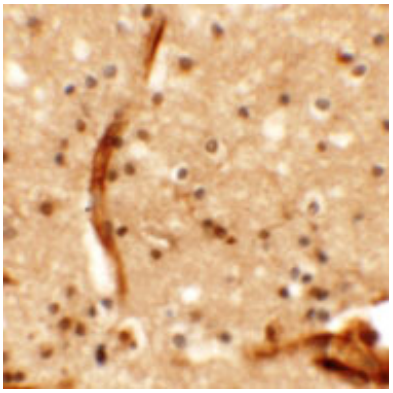
Rajan S, Wischmeyer E, Karschin C, et al. THIK-1 and THIK-2, a novel subfamily of tandem pore domain K+ channels. J. Biol. Chem. 2001; 276:7302-11.
Jezzini SH and Moroz LL. Identification and distribution of a twopore domain potassium channel in the CNS of Aplysia californica. Brain Res. Mol. Brain Res. 2004; 127:27-38.
Theilig F, Goranova I, Hirsch JR, et al. Cellular localization of THIK-1 (K(2P)13.1) and THIK-2 (K(2P)12.1) K channels in the mammalian kidney. Cell Physiol. Biochem. 2008; 21:63-74
Ishii H, Nakajo K, Yanagawa Y, et al. Identification and characterization of Cs(+)-permeable K(+) channel current in mouse cerebellar Purkinje cells in lobules 9 and 10 evoked by molecular layer stimulation. Eur. J. Neurosci. 2010; 32:736-48

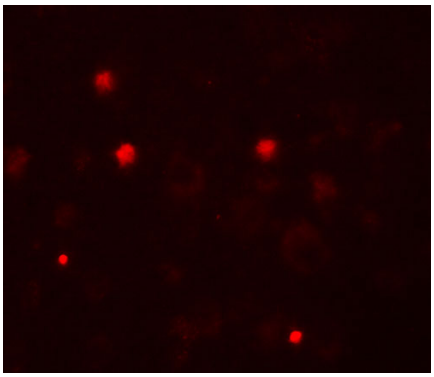
Images



Western blot analysis of KCNK13 in rat brain tissue lysate with KCNK13 antibody at 0.5 µg/mL in (A) the absence and (B) the presence of blocking peptide.

Immunohistochemistry of KCNK13 in human brain tissue with KCNK13 antibody at 5 µg/mL.





Immunofluorescence of KCNK13 in human brain tissue with KCNK13 antibody at 20 µg/mL.

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