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KCNK9 (TASK-3) Polyclonal Antibody

Catalog # AP63689

Product Information

Application	WB, IHC-P
Primary Accession	Q9NPC2
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42264

Additional Information

Gene ID	51305
Other Names	Potassium channel subfamily K member 9 (Acid-sensitive potassium channel protein TASK-3) (TWIK-related acid-sensitive K(+) channel 3) (Two pore potassium channel KT3.2) (Two pore K(+) channel KT3.2)
Dilution	WB~~WB 1:1000-2000, IHC 1:100-200 IHC-P~~WB 1:1000-2000, IHC 1:100-200
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

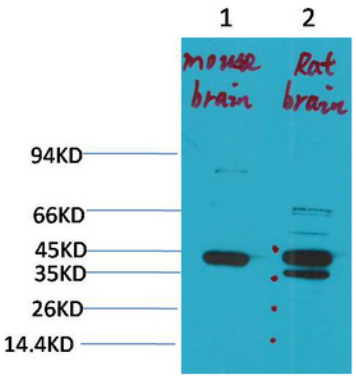
Name	KCNK9 {ECO:0000303|PubMed:18678320, ECO:0000312|HGNC:HGNC:6283}
Function	K(+) channel that conducts voltage-dependent outward rectifying currents upon membrane depolarization. Voltage sensing is coupled to K(+) electrochemical gradient in an 'ion flux gating' mode where outward but not inward ion flow opens the gate (PubMed:11042359, PubMed:11431495, PubMed:26919430, PubMed:38630723). Changes ion selectivity and becomes permeable to Na(+) ions in response to extracellular acidification. Protonation of the pH sensor His-98 stabilizes C-type inactivation conformation likely converting the channel from outward K(+)-conducting, to inward Na(+)-conducting to nonconductive state (PubMed:22948150, PubMed:38630723). Homo- and heterodimerizes to form functional channels with distinct regulatory and gating properties (By similarity) (PubMed:23169818, PubMed:38630723). Allows K(+) currents with fast-gating kinetics important for the repolarization and hyperpolarization phases of action potentials (By similarity). In granule neurons, hyperpolarizes the resting membrane potential to limit intrinsic neuronal excitability, but once the action potential threshold is reached, supports high- frequency action potential firing and increased neuronal excitability. Homomeric and/or

	heteromeric KCNK3:KCNK9 channels operate in cerebellar granule cells, whereas heteromeric KCNK1:KCNK9 enables currents in hippocampal dentate gyrus granule neurons (By similarity). Dispensable for central chemosensory respiration i.e. breathing controlled by brainstem CO2/pH, it rather conducts pH-sensitive currents and controls the firing rate of serotonergic raphe neurons involved in potentiation of the respiratory chemoreflex (By similarity). In retinal ganglion cells, mediates outward currents that regulate action potentials in response to acidification of the synaptic cleft. Involved in transmission of image-forming and nonimage-forming visual information in the retina (By similarity). In adrenal gland, contributes to the maintenance of a hyperpolarized resting membrane potential of aldosterone-producing cells at zona glomerulosa and limits aldosterone release as part of a regulatory mechanism that controls arterial blood pressure and electrolyte homeostasis (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein. Mitochondrion inner membrane {ECO:0000250|UniProtKB:Q3LS21}; Multi-pass membrane protein. Cell projection, dendrite {ECO:0000250|UniProtKB:Q3LS21}. Note=Colocalizes with MAP2 in the soma and proximal dendrites of dentate gyrus granule cells {ECO:0000250|UniProtKB:Q3LS21}
Tissue Location	Mainly found in the cerebellum. Also found in adrenal gland, kidney and lung.

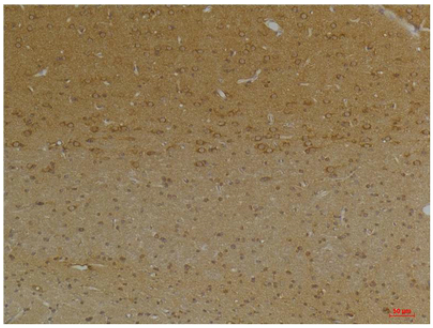
Background

pH-dependent, voltage-insensitive, background potassium channel protein.

Images



Western blot analysis of 1) Mouse BrainTissue, 2)Rat Brain Tissue with KCNK9 Rabbit pAb diluted at 1:2,000.



Immunohistochemical analysis of paraffin-embedded Rat BrainTissue using KCNK9 (TASK-3) Rabbit pAb diluted at 1:200.

Immunohistochemical analysis of paraffin-embedded Mouse BrainTissue using KCNK9 (TASK-3) Rabbit pAb diluted at 1:200.

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