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TASK-1 Polyclonal Antibody

Catalog # AP73872

Product Information

Application	WB, E
Primary Accession	O14649
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	43518

Additional Information

Gene ID	3777
Other Names	KCNK3; TASK; TASK1; Potassium channel subfamily K member 3; Acid-sensitive potassium channel protein TASK-1; TWIK-related acid-sensitive K(+) channel 1; Two pore potassium channel KT3.1; Two pore K(+) channel KT3.1
Dilution	WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/10000. Not yet tested in other applications. E~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

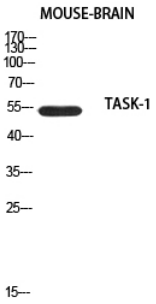
Name	KCNK3 {ECO:0000303|PubMed:10748056, ECO:0000312|HGNC:HGNC:6278}
Function	K(+) channel that conducts voltage-dependent outward rectifying currents upon membrane depolarization. Voltage sensing is coupled to K(+) electrochemical gradient in an 'ion flux gating' mode where outward but not inward ion flow opens the gate (PubMed:23169818, PubMed:26919430, PubMed:32499642, PubMed:36195757, PubMed:9312005). 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). Homo- and heterodimerizes to form functional channels with distinct regulatory and gating properties (PubMed:23169818, PubMed:32499642). Allows K(+) currents with fast- gating kinetics important for the repolarization and hyperpolarization phases of action potentials (By similarity). In cerebellar granule cells, heteromeric KCNK3:KCNK9 channel may hyperpolarize the resting membrane potential to limit intrinsic neuronal excitability, but once

	the action potential threshold is reached, it may support high- frequency action potential firing and increased neuronal excitability (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. Additionally, imparts chemosensitivity to type 1 cells in carotid bodies which respond to a decrease in arterial oxygen pressure or an increase in carbon dioxide pressure or pH to initiate adaptive changes in pulmonary ventilation (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). In brown adipocytes, mediates K(+) efflux that counteracts norepinephrine- induced membrane depolarization, limits Ca(2+) efflux and downstream cAMP and PKA signaling, ultimately attenuating lipid oxidation and adaptive thermogenesis (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein
Tissue Location	Widespread expression in adult. Strongest expression in pancreas and placenta. Lower expression in brain, lung, prostate, heart, kidney, uterus, small intestine and colon

Background

pH-dependent, voltage-insensitive, background potassium channel protein. Rectification direction results from potassium ion concentration on either side of the membrane. Acts as an outward rectifier when external potassium concentration is low. When external potassium concentration is high, current is inward.

Images



Western blot analysis of mouse-brain using TASK-1 antibody. Antibody was diluted at 1:500. Secondary antibody was diluted at 1:20000

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