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KCNA4 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19983b

Product Information

Application	WB, E
Primary Accession	P22459
Other Accession	P15385, Q61423, Q05037, NP_002224.1
Reactivity	Human
Predicted	Bovine, Mouse, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB41939
Calculated MW	73257
Antigen Region	591-619

Additional Information

Gene ID	3739
Other Names	Potassium voltage-gated channel subfamily A member 4, HPCN2, Voltage-gated K(+) channel HuKII, Voltage-gated potassium channel HBK4, Voltage-gated potassium channel HK1, Voltage-gated potassium channel subunit Kv14, KCNA4, KCNA4L
Target/Specificity	This KCNA4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 591-619 amino acids from the C-terminal region of human KCNA4.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KCNA4 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KCNA4

Synonyms	KCNA4L
Function	Voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes. Forms tetrameric potassium- selective channels through which potassium ions pass in accordance with their electrochemical gradient. The channel alternates between opened and closed conformations in response to the voltage difference across the membrane (PubMed:19912772, PubMed:8495559). Can form functional homotetrameric channels and heterotetrameric channels that contain variable proportions of KCNA1, KCNA2, KCNA4, KCNA5, and possibly other family members as well; channel properties depend on the type of alpha subunits that are part of the channel (PubMed:8495559). Channel properties are modulated by cytoplasmic beta subunits that regulate the subcellular location of the alpha subunits and promote rapid inactivation. In vivo, membranes probably contain a mixture of heteromeric potassium channel complexes, making it difficult to assign currents observed in intact tissues to any particular potassium channel family member. Homotetrameric KCNA4 forms a potassium channel that opens in response to membrane depolarization, followed by rapid spontaneous channel closure (PubMed:19912772, PubMed:8495559). Likewise, a heterotetrameric channel formed by KCNA1 and KCNA4 shows rapid inactivation (PubMed:17156368).
Cellular Location	Cell membrane; Multi-pass membrane protein Cell projection, axon {ECO:0000250|UniProtKB:P15385}
Tissue Location	Expressed in brain, and at lower levels in the testis, lung, kidney, colon and heart (PubMed:27582084). Detected in heart ventricle.

Background

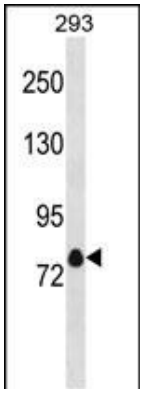
Potassium channels represent the most complex class of voltage-gated ion channels from both functional and structural standpoints. Their diverse functions include regulating neurotransmitter release, heart rate, insulin secretion, neuronal excitability, epithelial electrolyte transport, smooth muscle contraction, and cell volume. Four sequence-related potassium channel genes - shaker, shaw, shab, and shal - have been identified in Drosophila, and each has been shown to have human homolog(s). This gene encodes a member of the potassium channel, voltage-gated, shaker-related subfamily. This member contains six membrane-spanning domains with a shaker-type repeat in the fourth segment. It belongs to the A-type potassium current class, the members of which may be important in the regulation of the fast repolarizing phase of action potentials in heart and thus may influnce the duration of cardiac action potential. The coding region of this gene is intronless, and the gene is clustered with genes KCNA3 and KCNA10 on chromosome 1.

References

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Angelova, P.R., et al. Eur. J. Neurosci. 29(10):1943-1950(2009)
Mckeown, L., et al. J. Biol. Chem. 283(44):30421-30432(2008)
Lee, J.H., et al. Mol. Pharmacol. 73(3):619-626(2008)
Gessler, M., et al. Hum. Genet. 90(3):319-321(1992)

Images

KCNA4 Antibody (C-term) (Cat. #AP19983b) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the KCNA4 antibody detected the KCNA4 protein (arrow).



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