Datasheet for ABIN7163951

anti-KCNA1 antibody (AA 7-150) (HRP)

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Overview

Quantity:	100 µg
Target:	KCNA1
Binding Specificity:	AA 7-150
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This KCNA1 antibody is conjugated to HRP
Application:	ELISA

Product Details

Immunogen:	Recombinant Human Potassium voltage-gated channel subfamily A member 1 protein (7-150AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

Target Details

Target:	KCNA1
Alternative Name:	KCNA1 (KCNA1 Products)
Background:	Background: Voltage-gated potassium channel that mediates transmembrane potassium

transport in excitable membranes, primarily in the brain and the central nervous system, but also in the kidney (PubMed:19903818). Contributes to the regulation of the membrane potential and nerve signaling, and prevents neuronal hyperexcitability (PubMed:17156368). 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). Can form functional homotetrameric channels and heterotetrameric channels that contain variable proportions of KCNA1, KCNA2, KCNA4, KCNA5, KCNA6, KCNA7, and possibly other family members as well, channel properties depend on the type of alpha subunits that are part of the channel (PubMed:12077175, PubMed:17156368). Channel properties are modulated by cytoplasmic beta subunits that regulate the subcellular location of the alpha subunits and promote rapid inactivation of delayed rectifier potassium channels (PubMed:12077175, PubMed:17156368). 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 KCNA1 forms a delayed-rectifier potassium channel that opens in response to membrane depolarization, followed by slow spontaneous channel closure (PubMed:19912772, PubMed:19968958, PubMed:19307729, PubMed:19903818). In contrast, a heterotetrameric channel formed by KCNA1 and KCNA4 shows rapid inactivation (PubMed:17156368). Regulates neuronal excitability in hippocampus, especially in mossy fibers and medial perforant path axons, preventing neuronal hyperexcitability. Response to toxins that are selective for KCNA1, respectively for KCNA2, suggests that heteromeric potassium channels composed of both KCNA1 and KCNA2 play a role in pacemaking and regulate the output of deep cerebellar nuclear neurons (By similarity). May function as down-stream effector for G protein-coupled receptors and inhibit GABAergic inputs to basolateral amygdala neurons (By similarity). May contribute to the regulation of neurotransmitter release, such as gamma-aminobutyric acid (GABA) release (By similarity). Plays a role in regulating the generation of action potentials and preventing hyperexcitability in myelinated axons of the vagus nerve, and thereby contributes to the regulation of heart contraction (By similarity). Required for normal neuromuscular responses (PubMed:11026449, PubMed:17136396). Regulates the frequency of neuronal action potential firing in response to mechanical stimuli, and plays a role in the perception of pain caused by mechanical stimuli, but does not play a role in the perception of pain due to heat stimuli (By similarity). Required for normal responses to auditory stimuli and precise location of sound sources, but not for sound perception (By similarity). The use of toxins that block specific channels suggest that it contributes to the regulation of the axonal release of the neurotransmitter dopamine (By similarity). Required for normal postnatal brain development

Target Details

	and normal proliferation of neuronal precursor cells in the brain (By similarity). Plays a role in the reabsorption of Mg(2+) in the distal convoluted tubules in the kidney and in magnesium ion homeostasis, probably via its effect on the membrane potential (PubMed:23903368, PubMed:19307729). Aliases: AEMK antibody, EA1 antibody, Episodic ataxia with myokymia antibody, HBK1 antibody, HUK1 antibody, Kca1 1 antibody, Kcna1 antibody, KCNA1_HUMAN antibody, Kcpvd antibody, KV1.1 antibody, MBK1 antibody, mceph antibody, MGC124402 antibody, MGC126782 antibody, MGC138385 antibody, MK1 antibody, MK1, mouse, homolog of KV1.1 antibody, Potassium channel protein 1 antibody, Potassium voltage gated channel shaker related subfamily member 1 antibody, Potassium voltage gated channel subfamily A member 1 antibody, Potassium voltage gated channel, shaker related subfamily, member 1 (episodic ataxia with myokymia) antibody, Potassium voltage-gated channel subfamily A member 1 antibody, RBK1 antibody, RCK1 antibody, Shak antibody, Shaker related subfamily member 1 antibody, Voltage gated potassium channel subunit Kv1.1 antibody, Voltage-gated K(+) channel HuKI antibody, Voltage-gated potassium channel HBK1 antibody, Voltage-gated potassium channel subunit Kv1.1 antibody
UniProt:	Q09470

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	Preservative: 0.03 % Proclin 300 Constituents: 50 % Glycerol, 0.01M PBS, pH 7.4
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.