

Product datasheet for **TA363105**

Kcna1 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	WB
Reactivity:	Mouse
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	The immunogen is a synthetic peptide directed towards the N terminal region of mouse KCNA1
Specificity:	Expected reactivity: Mouse
Formulation:	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose. <i>Note that this product is shipped as lyophilized powder to China customers.</i>
Concentration:	lot specific
Purification:	Affinity purified
Conjugation:	Unconjugated
Storage:	For short term use, store at 2-8°C up to 1 week. For long term storage, store at -20°C in small aliquots to prevent freeze-thaw cycles.
Stability:	Shelf life: one year from despatch.
Predicted Protein Size:	54 kDa
Gene Name:	potassium voltage-gated channel, shaker-related subfamily, member 1
Database Link:	NP_034725.3 Entrez Gene 16485 Mouse P16388



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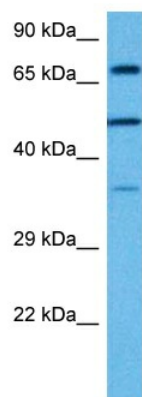
Background:

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. Contributes to the regulation of the membrane potential and nerve signaling, and prevents neuronal hyperexcitability. 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. 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. 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. 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. In contrast, a heterotetrameric channel formed by KCNA1 and KCNA4 shows rapid inactivation (By similarity). Regulates neuronal excitability in hippocampus, especially in mossy fibers and medial perforant path axons, preventing neuronal hyperexcitability. May function as downstream 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. Required for normal neuromuscular responses. 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. Required for normal responses to auditory stimuli and precise location of sound sources, but not for sound perception. The use of toxins that block specific channels suggest that it contributes to the regulation of the axonal release of the neurotransmitter dopamine. Required for normal postnatal brain development and normal proliferation of neuronal precursor cells in the brain. Plays a role in the reabsorption of Mg²⁺ in the distal convoluted tubules in the kidney and in magnesium ion homeostasis, probably via its effect on the membrane potential (By similarity).

Synonyms:

AEMK; EA1; HBK1; HUK1; HUKI; Kv1.1; MBK1; MGC126782; MGC138385; MK1; RBK1

Product images:



Host: Rabbit
Target Name: Kcna1
Sample Type: Mouse Thymus Lysate
Antibody Dilution: 1.0 μ g/ml

Host: Rabbit
Target Name: KCNA1
Sample Tissue: Mouse Thymus lysates
Antibody Dilution: 1 ug/ml