

Anti-Kv1.2 K⁺ Channel Antibody



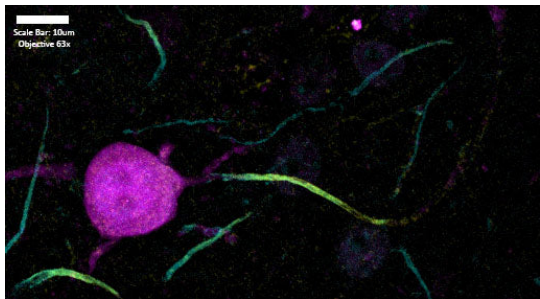
Product Details

Available Variants	100 µL (SKU:75-008) 20 µL (SKU:75-008-020)
Conjugate	Unconjugated
Isotype	IgG2b
Clone	K14/16
Gene Name	KCNA2
Host Species	Mouse
Concentration	1 mg/mL
Format	Purified by Protein A chromatography
Physical State	Liquid
Buffer	10 mM Tris, 50 mM Sodium Chloride, 0.065% Sodium Azide pH 7.4
Production Notes	Produced by in vitro bioreactor culture of hybridoma line followed by Protein A affinity chromatography. Purified mAbs are >90% specific antibody.
Applications	ELISA, ICC, IHC, IP, WB
Dilution Ranges	WB: 1:1000 IHC: 1:250 ICC: 1:250
Species Reactivity	Gerbil, Human, Mouse, Non-Human Primate, Rat, Xenopus, Zebrafish
Immunogen	Fusion protein amino acids 428-499 (cytoplasmic C-terminus) of human Kv1.2 (accession number P63142) produced recombinantly in E. Coli
Specificity	No cross-reactivity against Kv1.1, Kv1.3, Kv1.4, Kv1.5 and Kv1.6 expressed in transfected cells
Molecular Weight	80 kDa

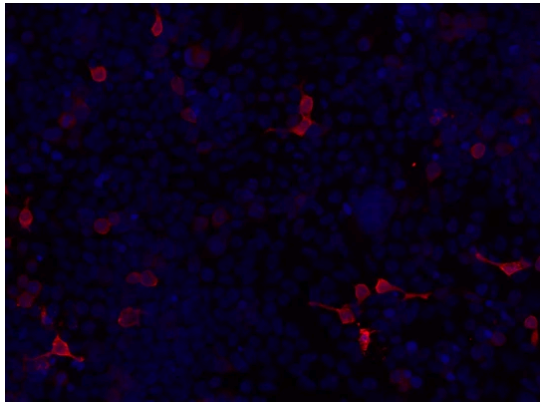
Quality Control	Each new lot of antibody is quality control tested by western blot on rat whole brain lysate and confirmed to stain the expected molecular weight band.
Storage	Aliquot and store at $\leq -20^{\circ}\text{C}$ for long term storage. For short term storage, store at $2-8^{\circ}\text{C}$. For maximum recovery of product, centrifuge the vial prior to removing the cap.
Antibody Registry ID	AB_2296313
UniProt ID	<u>P16389</u> UniProt Summary: 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 cardiovascular system. Prevents aberrant action potential firing and regulates neuronal output. 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 KCNA2 forms a delayed-rectifier potassium channel that opens in response to membrane depolarization, followed by slow spontaneous channel closure. In contrast, a heteromultimer formed by KCNA2 and KCNA4 shows rapid inactivation. Regulates neuronal excitability and plays a role as pacemaker in the regulation of neuronal action potentials. KCNA2-containing channels play a presynaptic role and prevent hyperexcitability and aberrant action potential firing. Response to toxins that are selective for KCNA2-containing potassium channels suggests that in Purkinje cells, dendritic subthreshold KCNA2-containing potassium channels prevent random spontaneous calcium spikes, suppressing dendritic hyperexcitability without hindering the generation of somatic action potentials, and thereby play an important role in motor coordination. Plays a role in the induction of long-term potentiation of neuron excitability in the CA3 layer of the hippocampus. May function as down-stream effector for G protein-coupled receptors and inhibit GABAergic inputs to basolateral amygdala neurons. May contribute to the regulation of neurotransmitter release, such as gamma-aminobutyric acid (GABA). Contributes to the regulation of the axonal release of the neurotransmitter dopamine. Reduced KCNA2 expression plays a role in the perception of neuropathic pain after peripheral nerve injury, but not acute pain. Plays a role in the regulation of the time spent in non-rapid eye movement (NREM) sleep.

Country of Origin	United States
Shipping	Shipped on ice packs
Expiration	24 months from date of receipt
Usage Statement	These antibodies are to be used as research laboratory reagents and are not for use as diagnostic or therapeutic reagents in humans.
NCBI Gene ID	3737

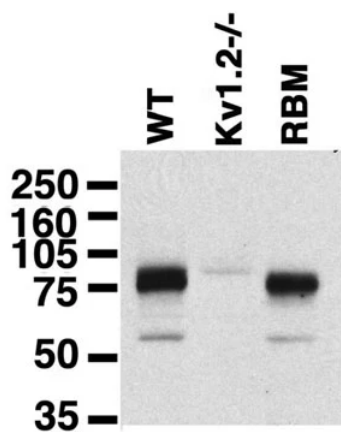
Product Images



Immunolabeling of postnatal 14 mouse CA3 (Axonal Initial Segment, Parvalbumin positive interneuron) labeling Kv1.2 (75-008, 1:200, yellow) Parvalbumin (magenta), and Ankyrin G (cyan). Mice were transcardially perfused with cold 4% PFA in PBS, then brain removed and postfixed overnight. 50 uM slices as floating sections, antigen retrieval performed with sodium citrate at 80 C for 30 min. before immunolabeling. Images from J. Ramirez-Franco and O. El Far, Aix-Marseille Université and INSERM.



Immunolabeling of permeabilized HEK293 cells specifically labeling intracellular Kv1.2 (Cat. 75-008, 1:200, red) and DAPI labelling DNA (blue). Images kindly provided by Ivan Talucci and Maric Hans, Rudolf Virchow Center for Integrative and Translational Bioimaging.



Immunoblot on brain membranes from wild-type (WT) and Kv1.2 knockout (Kv1.2^{-/-}) mice and from adult rat brain (RBM).

Product Page URL: www.antibodiesinc.com/products/anti-kv1-2-k-channel-antibody-k14-16-75-008



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