



Kv4.2 Polyclonal Antibody

Catalog No	YP-Ab-16457
Isotype	IgG
Reactivity	Human;Mouse;Rat
Applications	IHC;IF;ELISA
Gene Name	KCND2
Protein Name	Potassium voltage-gated channel subfamily D member 2
Immunogen	The antiserum was produced against synthesized peptide derived from human Kv4.2/KCND2. AA range:581-630
Specificity	Kv4.2 Polyclonal Antibody detects endogenous levels of Kv4.2 protein.
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Source	Polyclonal, Rabbit,IgG
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Dilution	IHC: 1/100 - 1/300. ELISA: 1/10000.. IF 1:50-200
Concentration	1 mg/ml
Purity	≥90%
Storage Stability	-20°C/1 year
Synonyms	KCND2; KIAA1044; Potassium voltage-gated channel subfamily D member 2; Voltage-gated potassium channel subunit Kv4.2
Observed Band	
Cell Pathway	Cell membrane ; Multi-pass membrane protein . Cell projection, dendrite . Cell junction, synapse . Perikaryon . Cell junction, synapse, postsynaptic cell membrane . Cell projection, dendritic spine . Cell junction . In neurons, primarily detected on dendrites, dendritic spines and on the neuron cell body, but not on axons. Localized preferentially at the dendrites of pyramidal cells in the hippocampus CA1 layer. Detected at GABAergic synapses. Detected at cell junctions that are distinct from synaptic cell contacts. Detected in lipid rafts. Detected primarily at the endoplasmic reticulum or Golgi when expressed by itself (PubMed:15454437). Interaction with KCNIP1, KCNIP2, KCNIP3 or KCNIP4 promotes expression at the cell membrane (PubMed:15454437, PubMed:24811166). Interaction with DPP6 or
Tissue Specificity	Detected in ovary, in corpus luteum and in granulosa and theca cells in the follicle (at protein level) (PubMed:15991246). Highly expressed throughout the brain (PubMed:10551270, PubMed:10729221). Detected in amygdala, caudate nucleus, cerebellum, hippocampus, substantia nigra and thalamus (PubMed:10551270, PubMed:10729221). Expression is not detectable or very low in heart, kidney, liver, lung, pancreas and skeletal muscle (PubMed:10551270, PubMed:10729221). Not detectable in human heart atrium



(PubMed:12395204).

Function

domain: The segment S4 is probably the voltage-sensor and is characterized by a series of positively charged amino acids at every third position. function: Pore-forming (alpha) subunit of voltage-gated rapidly inactivating A-type potassium channels. May contribute to I(To) current in heart and I(Sa) current in neurons. Channel properties are modulated by interactions with other alpha subunits and with regulatory subunits. PTM: Phosphorylated on serine and threonine residues. similarity: Belongs to the potassium channel family. D (Shal) subfamily. subcellular location: Detected in dendrites in cultured hippocampal neurons. Association with KCNIP2 probably enhances cell surface expression. subunit: Homotetramer or heterotetramer with KCND1 and/or KCND3. Interacts with DPP6, DLG4 and FREQ (By similarity). Interacts with DLG1. Associates with the regulatory subunits KCNIP1, KCNIP2, KCNIP3 and KCNI

Background

Voltage-gated potassium (Kv) 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, shal-related subfamily, members of which form voltage-activated A-type potassium ion channels and are prominent in the repolarization phase of the action potential. This member mediates a rapidly inactivating, A-type outward potassium current which is not under the control of the N terminus as i

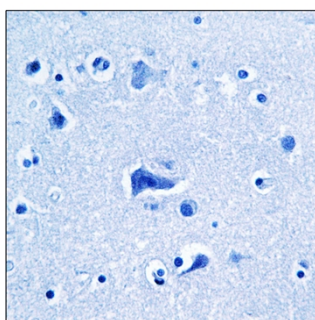
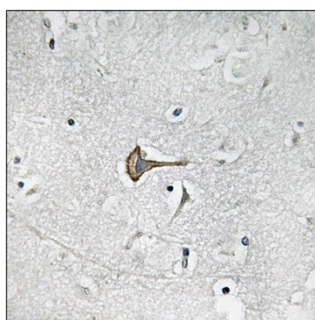
matters needing attention

Avoid repeated freezing and thawing!

Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

Products Images



Immunohistochemistry analysis of paraffin-embedded human brain tissue, using Kv4.2/KCND2 Antibody. The picture on the right is blocked with the synthesized peptide.