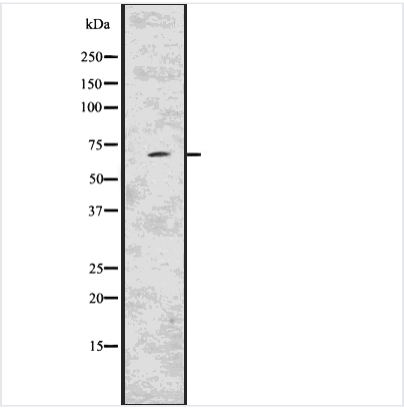
KCND2 Antibody

PRODUCT OVERVIEW

Product Name	KCND2, Antibody
Full Product Name	KCND2 Antibody
Product Gene Name	anti-KCND2 antibody
Molecular Weight	70,537 Da
OMIM	605410
3D Structure	ModBase 3D Structure for Q9NZV8
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for anti-KCND2 antibody	MBS8517054 is an antibody targeting KCND2. Also known as KCND2 Antibody.
Other Notes	Small volumes of anti-KCND2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



Western Blot (WB) of anti-KCND2 antibody
Western blot analysis KCND2 using MCF7 whole cell lysates

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for KCND2. It may not necessarily be applicable to this product.

NCBI GI #	9789987
NCBI GeneID	3751
NCBI Accession #	NP_036413.1
UniProt Primary Accession #	Q9NZV8
UniProt Secondary Accession #	O95012; O95021; Q2TBD3; Q9UBY7; Q9UN98; Q9UNH9
UniProt Related Accession #	Q9NZV8
GenBank Nucleotide #	NM_012281.2
NCBI Official Full Name	potassium voltage-gated channel subfamily D member 2

NCBI Official Synonym Full Names	potassium voltage-gated channel subfamily D member 2
NCBI Official Symbol	KCND2
NCBI Official Synonym Symbols	RK5; KV4.2
UniProt Protein Name	Potassium voltage-gated channel subfamily D member 2
UniProt Synonym Protein Names	Voltage-gated potassium channel subunit Kv4.2
Protein Family	Potassium voltage-gated channel subfamily
UniProt Gene Name	KCND2
UniProt Synonym Gene Names	KIAA1044
NCBI Protein Information	potassium voltage-gated channel subfamily D member 2
NCBI Summary for KCND2	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 it is in Shaker channels. [provided by RefSeq, Jul 2008]
UniProt Comments for KCND2	Voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes, primarily in the brain. Mediates the major part of the dendritic A-type current I(SA) in brain neurons (). This current is activated at membrane potentials that are below the threshold for action potentials. It regulates neuronal excitability, prolongs the latency before the first spike in a series of action potentials, regulates the frequency of repetitive action potential firing, shortens the duration of action potentials and regulates the back-propagation of action potentials from the neuronal cell body to the dendrites. Contributes to the regulation of the circadian rhythm of action potential firing in suprachiasmatic nucleus neurons, which regulates the circadian rhythm of locomotor activity (). Functions downstream of the metabotropic glutamate receptor GRM5 and plays a role in neuronal excitability and in nociception mediated by activation of GRM5 (). Mediates the transient outward current I(to) in rodent heart left ventricle apex cells, but not in human heart, where this current is mediated by another family member. Forms tetrameric potassium-selective channels through which potassium ions pass in accordance with their electrochemical gradient (PubMed:10551270, PubMed:15454437, PubMed:14695263, PubMed:14623880, PubMed:14980201, PubMed:16934482, PubMed:24811166, PubMed:24501278). The channel alternates between opened and closed conformations in response to the voltage difference across the membrane (PubMed:11507158). Can form functional homotetrameric channels and heterotetrameric channels that contain variable proportions of KCND2 and KCND3; channel properties depend on the type of pore-forming alpha subunits that are part of the channel. In vivo, membranes probably contain a mixture of heteromeric potassium channel complexes. Interaction with specific isoforms of the regulatory subunits KCNIP1, KCNIP2, KCNIP3 or KCNIP4 strongly increases expression at the cell surface and thereby increases channel activity; it modulates the kinetics of channel activation and inactivation, shifts the threshold for channel activation to more negative voltage values, shifts the threshold for inactivation to less negative voltages and accelerates recovery after inactivation (PubMed:15454437, PubMed:14623880, PubMed:14980201, PubMed:19171772, PubMed:24501278, PubMed:24811166). Likewise, interaction with DPP6 or DPP10 promotes expression at the cell membrane and regulates both channel characteristics and activity ().
Research Articles on KCND2	**1.** Our results do not support the notion that accessory KChIP2 binding is a prerequisite for dendritic trafficking and functional surface expression of Kv4.2 channels, however, accessory KChIP2 binding may play a potential role in Kv4.2 modulation during intrinsic plasticity processes.
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