

Recombinant Human KCND2 Protein (406-630 aa), His-tagged

Cat. No. KCND2-1430H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human KCND2 Protein (406-630 aa) is produced by Yeast expression system. This protein is fused with a 6xHis tag at the N-terminal. Research Area: Transport. Protein Description: Partial.
Species	Human
Source	Yeast
ProteinLength	406-630 aa
Description	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

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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 mbrane . 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, mbranes 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 . Likewise, interaction with DPP6 or DPP10 promotes expression at the cell mbrane and regulates both channel characteristics and activity.

Form	Tris-based buffer,50% glycerol
Molecular Mass	27.0 kDa
AA Sequence	VSNFSRIYHQNQRADKRRRAQKKARLARIRAAKSGSANAYMQSKRNGLLSNQLQSSE DEQAFVSKSGSSFETQHHLLHCLEKTTNHEFVDEQVFEESCMEVATVNRPSSHSP SLSSQQGVTSTCCSRRHKKTRIPNANVSGSHQGSIQELSTIQIRCVERTPLSNSRS SLNAKMEECVKLNCEQPYVTTAISIPTPPVTTPEGDDRPESPEYSGGNIVRVSA
Purity	> 90% as determined by SDS-PAGE.
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4 centigrade for up to one week.
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage

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temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20 centigrade/-80 centigrade. The shelf life of lyophilized form is 12 months at -20 centigrade/-80 centigrade.

Concentration A hardcopy of COA with reconstitution instruction is sent along with the products.

GENE INFORMATION

Gene Name KCND2 potassium voltage-gated channel, Shal-related subfamily, member 2 [Homo sapiens]

Official Symbol KCND2

Synonyms KCND2; KIAA1044; Kv4.2; RK5; KV4.2; MGC119702; MGC119703;

Gene ID 3751

mRNA Refseq NM_012281

Protein Refseq NP_036413

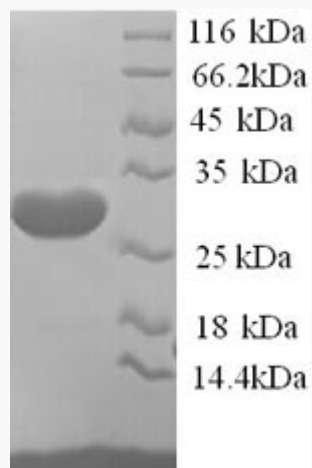
MIM 605410

UniProt ID Q9NZV8

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(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

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