

Datasheet for ABIN3118698

KCND2 Protein (AA 1-630) (Strep Tag)[Go to Product page](#)**1** Image

Overview

Quantity:	1 mg
Target:	KCND2
Protein Characteristics:	AA 1-630
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This KCND2 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB)

Product Details

Sequence:	MAAGVAAWLP FARAAAGWM PVASGPMPAP PRQERKRTQD ALIVLNVSGT RFQTWQDTLE RYPDTLLGSS ERDDFFYHPET QQYFFDRDPD IFRHILNFYR TGKLHYPRHE CISAYDEELA FFGLIPEIIG DCCYEEYKDR RRENAERLQD DADTDTAGES ALPTMTARQR VWRAFENPHT STMALVFYVYV TGFFIAVSVI ANVVETVPCG SSPGHIKELP CGERYAVAFF CLDTACVMIF TVEYLLRLAA APSRYRFVRS VMSIIDVVAI LPYYIGLVMT DNEDVSGAFV TLRVFRVFRI FKFSRHSQGL RILGYTLKSC ASELGFLIFS LTMAIIFAT VMFYAEKGSS ASKFTSIPAA FWYTIVTMTT LGYGDMVPKT IAGKIFGSIC SLSGVLVIAL PVPVIVSNFS RIYHQNQRAD KRRRAQKKARL ARIRAAKSGS ANAYMQSKRN GLLSNQLQSS EDEQAFVSKS GSSFETQH HH LLHCLEKTTN HEFVDEQVFE ESCMEVATVN RPSSHSPSLS SQQGVSTSTCC SRRHKKTFR I PNANVSGSHQ GSIQELSTIQ IRCVERTPLS NSRSSLNAKM EECVKLNCEQ PYVTTAISI PTPPVTTPPEG DDRPESPEYS GGNIVRVSA L
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Sequence without tag. The proposed Strep-Tag is based on experience s with the expression

system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag

Product Details

- capture material. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	KCND2
Alternative Name:	KCND2 (KCND2 Products)
Background:	<p>Potassium voltage-gated channel subfamily D member 2 (Voltage-gated potassium channel subunit Kv4.2),FUNCTION: 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 (By similarity). 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 (By similarity). Functions downstream of the metabotropic glutamate receptor GRM5 and plays a role in neuronal excitability and in nociception mediated by activation of GRM5 (By similarity). 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</p>

Target Details

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 (By similarity). {ECO:0000250|UniProtKB:Q63881, ECO:0000250|UniProtKB:Q9Z0V2, ECO:0000269|PubMed:10551270, ECO:0000269|PubMed:10729221, ECO:0000269|PubMed:11507158, ECO:0000269|PubMed:14623880, ECO:0000269|PubMed:14695263, ECO:0000269|PubMed:14980201, ECO:0000269|PubMed:15454437, ECO:0000269|PubMed:16934482, ECO:0000269|PubMed:19171772, ECO:0000269|PubMed:24501278, ECO:0000269|PubMed:24811166}.

Molecular Weight: 70.5 kDa

UniProt: [Q9NZV8](#)

Application Details

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

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Restrictions: For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process