

Datasheet for ABIN3117497
KCNC2 Protein (AA 1-638) (Strep Tag)



[Go to Product page](#)

1 Image

Overview

Quantity:	1 mg
Target:	KCNC2
Protein Characteristics:	AA 1-638
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This KCNC2 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Sequence: MGKIENNERV ILNVGGTRHE TYRSTLKTLP GTRLALLASS EPPGDCLTTA GDKLQSPPPP
 LSPPPRAPPL SPGPGGCFEG GAGNCSSRGG RASDHPGGGR EFFFDRHPGV FAYVLNYYRT
 GKLHCPADVC GPLFEEELAF WGIDETDVEP CCWMTYRQHR DAEALDIFE TPDLIGDGP
 DDEDLAAKRL GIEDAAGLGG PDGKSGRWRR LQPRMWALFE DPYSSRAARF IAFASLFFIL
 VSITTFCLET HEAFNIVKNK TEPVINGTSV VLQYEIETDP ALTYVEGVCV VWFTFEFLVR
 IVFSPNKLEF IKNLLNIIDF VAILPFYLEV GLSGLSSKAA KDLVGLFRVV RFRVILRIK LTRHFVGLRV
 LGHTLRASTN EFLLLIIFLA LGVLIFATMI YYAERVGAQP NDPSASEHTQ FKNIPIGFVW
 AVVTMTTLGY GDMYPQTSWG MLVGALCALA GVLTAMPVP VIVNNFGMYY SLAMAKQKLP
 RKRKKHIPPA PQASSPTFCK TELNMACNST QSDTCLGKDN RLEHNRSVL SGDDSTGSEP
 PLSPPERLPI RRSSTRDKNR RGETCFLLTT GDYTCASDGG IRKGYEKSRS LNNIAGLAGN
 ALRLSPVTSP YNSPCPLRRS RSPIPSIL

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: KCNC2

Alternative Name: KCNC2 ([KCNC2 Products](#))

Background: Potassium voltage-gated channel subfamily C member 2 (Shaw-like potassium channel) (Voltage-gated potassium channel Kv3.2),FUNCTION: Voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes, primarily in the brain. Contributes to the regulation of the fast action potential repolarization and in sustained high-frequency firing in neurons of the central nervous system. Homotetramer channels mediate delayed-rectifier voltage-dependent potassium currents that activate rapidly at high-threshold voltages and inactivate slowly. Forms tetrameric 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 (PubMed:15709110). Can form functional homotetrameric and heterotetrameric channels that contain variable proportions of KCNC1, and possibly other family members as well, channel properties depend on the type of alpha subunits that are part of the channel. Channel properties may be modulated either by the association with ancillary subunits, such as KCNE1, KCNE2 or KCNE3 or indirectly by nitric oxide (NO) through a cGMP- and PKG-mediated signaling cascade, slowing channel activation and deactivation of delayed rectifier potassium channels (By similarity). Contributes to fire sustained trains of very brief action potentials at high frequency in retinal ganglion cells, thalamocortical and suprachiasmatic nucleus (SCN) neurons and in hippocampal and neocortical interneurons (PubMed:15709110). Sustained maximal action potential firing frequency in inhibitory hippocampal interneurons is negatively modulated by histamine H2 receptor activation in a cAMP- and protein kinase (PKA) phosphorylation-dependent manner. Plays a role in maintaining the fidelity of synaptic transmission in neocortical GABAergic interneurons by generating action potential (AP) repolarization at nerve terminals, thus reducing spike-evoked calcium influx and GABA neurotransmitter release.

Target Details

Required for long-range synchronization of gamma oscillations over distance in the neocortex. Contributes to the modulation of the circadian rhythm of spontaneous action potential firing in suprachiasmatic nucleus (SCN) neurons in a light-dependent manner (By similarity). {ECO:0000250|UniProtKB:P22462, ECO:0000250|UniProtKB:Q14B80, ECO:0000269|PubMed:15709110, ECO:0000305|PubMed:10414303, ECO:0000305|PubMed:11506885}.

Molecular Weight: 70.2 kDa

UniProt: [Q96PR1](#)

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.

Comment: 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!

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.

Handling

Expiry Date: Unlimited (if stored properly)

Images



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