

Datasheet for ABIN3110096  
KCNQ2 Protein (AA 1-872) (Strep Tag)



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Overview

Quantity:	1 mg
Target:	KCNQ2
Protein Characteristics:	AA 1-872
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This KCNQ2 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	<p>MVQKSRNGGV YPGPSGEKKL KVGFGVGLDPG APDSTRDGAL LIAGSEAPKR GSILSKPRAG</p> <p>GAGAGKPPKR NAFYRKLQNF LYNVLERPRG WAFIYHAYVF LLVFSCVLVS VFSTIKEYEK</p> <p>SSEGALYILE ITIVVFGVE YFVRIWAAGC CCRYRGWRGR LKFARKPFCV IDIMVLIASI</p> <p>AVLAAGSQGN VFATSALRSL RFLQILRMIR MDRRGGTWKL LGSVVYAHSK ELVTAWYIGF</p> <p>LCLILASFLV YLAEKGENDH FDTYADALWW GLITLTTIGY GDKYPQTWNG RLLAATFTLI</p> <p>GVSFFALPAG ILGSGFALKV QEQRQKHFE KRRNPAAGLI QSAWRFYATN LSRTDLHSTW</p> <p>QYYERTVTVP MYSSQTQTYG ASRLIPPLNQ LELLRNLSK SGLAFRKDPP PEPSPSKGSP</p> <p>CRGPLCGCCP GRSSQKVSLK DRVFSSPRGV AAKGKGSPQA QTVRRSPSAD QSLEDSPSKV</p> <p>PKWSFGDRS RARQAFRIKG AASRQNSEEA SLPGEDIVDD KSCPCEFVTE DLTPGLKSVI</p> <p>RAVCVMRFLV SKRKFKESLR PYDVMDVIEQ YSAGHLDMLS RIKSLQSRVD QIVGRGPAIT</p> <p>DKDRTKGPAE AELPEDPSMM GRLGKVEKQV LSMEKKLDFL VNIYMQRMGI PPTETEAYFG</p> <p>AKEPEPAPPY HSPEDSREHV DRHGCIVKIV RSSSSTGQKN FSAPPAAPPV QCPPSTSWQP</p>
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QSHPRQGHGT SPVGDHGSLV RIPPAPAHER SLSAYGGNR ASMEFLRQED TPGCRPPEGN  
LRSDTSISI PSVDHEELER SFGFSISQS KENLDALNSC YAAVAPCAKV RPYIAEGESD  
TDSLCTPCG PPRSATGEG PFGDVGWAGP RK

**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.**

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### 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.

## Product Details

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 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:	KCNQ2
Alternative Name:	KCNQ2 ( <a href="#">KCNQ2 Products</a> )
Background:	<p>Potassium voltage-gated channel subfamily KQT member 2 (KQT-like 2) (Neuroblastoma-specific potassium channel subunit alpha KvLQT2) (Voltage-gated potassium channel subunit Kv7.2),FUNCTION: Associates with KCNQ3 to form a potassium channel with essentially identical properties to the channel underlying the native M-current, a slowly activating and deactivating potassium conductance which plays a critical role in determining the subthreshold electrical excitability of neurons as well as the responsiveness to synaptic inputs. Therefore, it is important in the regulation of neuronal excitability. KCNQ2/KCNQ3 current is blocked by linopirdine and XE991, and activated by the anticonvulsant retigabine (PubMed:9836639, PubMed:11572947, PubMed:14534157, PubMed:12742592, PubMed:17872363). As the native M-channel, the potassium channel composed of KCNQ2 and KCNQ3 is also suppressed by activation of the muscarinic acetylcholine receptor CHRM1 (PubMed:10684873). KCNQ2-KCNQ3 channel is selectively permeable to other cations besides potassium, in decreasing order of affinity K(+) &gt; Rb(+) &gt; Cs(+) &gt; Na(+). Associates with Na(+)-coupled myo-inositol symporter SLC5A3 forming a coregulatory complex that alters ion selectivity, increasing Na(+) and Cs(+) permeation relative to K(+) permeation. {ECO:0000269 PubMed:10684873, ECO:0000269 PubMed:11572947, ECO:0000269 PubMed:12742592, ECO:0000269 PubMed:14534157, ECO:0000269 PubMed:17872363, ECO:0000269 PubMed:25740509, ECO:0000269 PubMed:28793216, ECO:0000269 PubMed:9836639}.</p>
Molecular Weight:	95.8 kDa

## Target Details

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UniProt: [O43526](#)

## Application Details

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**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

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**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)



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