

Datasheet for ABIN3093393

## KCNMA1 Protein (AA 389-1236) (His tag)



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### 1 Image

#### Overview

Quantity:	1 mg
Target:	KCNMA1
Protein Characteristics:	AA 389-1236
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This KCNMA1 protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

#### Product Details

Sequence: ELIGNRKKYG GSYSVAVSGRK HIVVCGHITL ESVSNFLKDF LHKDRDDVNV EIVFLHNISP  
NLELEALFKR HFTQVEFYQG SVLNPHDLAR VKIESADACL ILANKYCADP DAEDASNIMR  
VISIKNYHPK IRIITQMLQY HNKAHLLNIP SWNWKEGDDA ICLAELKLG IAQSCLAQGL  
STMLANLFSM RSFIKIEEDT WQKYLEGVS NEMYTEYLSS AFVGLSFPTV CELCFVKLKL  
LMIAIEYKSA NRESRILINP GNHLKIQEGT LGFFIASDAK EVKRAFFYCK ACHDDITDPK  
RIKKGCKRP KMSIYKRMRR ACCFDCGRSE RDCSCMSGRV RGNVDTLERA FPLSSVSVND  
CSTSFRAFED EQPSTLSPKK QQRNGGMRNS PNTSPKLMRH DPLLIPGNDQ IDNMDSNVKK  
YDSTGMFHCW APKEIEKVL TRSEAAMTVL SGHVVCIFG DVSSALIGLR NLVMPLRASN  
FHYHELKHIV FVGSIEYLKR EWETLHNFPK VSILPGTPLS RADLRAVNIN LCDMCVILSA  
NQNNIDDTSL QDKECILASL NIKSMQFDDS IGVLQANSQG FTTPGMDRSS PDNSPVHGML  
RQPSITTGVN IPIITELVND TNVQFLDQDD DDDPDTELYL TQPFACGTAF AVSVLDSLMS  
ATYFNDNILT LIRTLVTGGA TPELEALIAE ENALRGGYST PQTLANRDRCAVAQLALLDG

PFADLGDGGC YGDLFCKALK TYNMLCFGIY RLRDAHLSTP SQCTKRYVIT NPPYEFELVP  
TDLIFCLMQF DHNAGQSRAS LSHSSHSSQS SSKKSSSVHS IPSTANRQNR PKSRESRDKQ  
KYVQEERL

**Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.**

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Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human KCNMA1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- 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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

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.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

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Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. 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.

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Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

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Sterility:

0.22 µm filtered

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## Product Details

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Endotoxin Level: Protein is endotoxin free.

Grade: Crystallography grade

## Target Details

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Target: KCNMA1

Alternative Name: KCNMA1 ([KCNMA1 Products](#))

Background: Potassium channel activated by both membrane depolarization or increase in cytosolic Ca(2+) that mediates export of K(+). It is also activated by the concentration of cytosolic Mg(2+). Its activation dampens the excitatory events that elevate the cytosolic Ca(2+) concentration and/or depolarize the cell membrane. It therefore contributes to repolarization of the membrane potential. Plays a key role in controlling excitability in a number of systems, such as regulation of the contraction of smooth muscle, the tuning of hair cells in the cochlea, regulation of transmitter release, and innate immunity. In smooth muscles, its activation by high level of Ca(2+), caused by ryanodine receptors in the sarcoplasmic reticulum, regulates the membrane potential. In cochlea cells, its number and kinetic properties partly determine the characteristic frequency of each hair cell and thereby helps to establish a tonotopic map. Kinetics of KCNMA1 channels are determined by alternative splicing, phosphorylation status and its combination with modulating beta subunits. Highly sensitive to both iberiotoxin (IbTx) and charybdotoxin (CTX).

Molecular Weight: 96.1 kDa Including tag.

UniProt: [Q12791](#)

Pathways: [Regulation of Hormone Metabolic Process](#), [Sensory Perception of Sound](#)

## 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: In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

## Handling

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Format:	Liquid
Buffer:	100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

## Validation report #102194 for Western Blotting (WB)

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