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Datasheet for ABIN3090126  
**CACNA1I Protein (AA 1731-2223) (His tag)**

### Overview

Quantity:	1 mg
Target:	CACNA1I
Protein Characteristics:	AA 1731-2223
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This CACNA1I protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

### Product Details

Sequence: KHLDDSNKEA QEDAEMDAEL ELEMAHGLGP GPRLPTGSPG APGRGPGGAG GGGDTEGGLC  
RRCYSPAQEN LWLDSVSLII KDSLEGELTI IDNLSGSIFH HYSSPAGCKK CHHDKQEVQL  
AETEAFSLNS DRSSSILLGD DLSLEDPTAC PPGRKDSKGE LDPPEPMRVG DLGECFFPLS  
STAVSPDPEN FLCEMEEIPF NPVRSWLKHD SSQAPSPFSDASSPLLPM PAEFFHPAVS  
ASQKGPEKGT GTGTLPKIAL QGSWASLRSP RVNCTLLRQA TGSDTSLDAS PSSSAGSLQT  
TLEDSTLSD SPRRALGPPA PAPGPRAGLS PAARRRLSLR GRGLFSLRGL RAHQRSHTSSG  
GSTSPGCTHH DSMDPSDEEG RGGAGGGGAG SEHSETLSSL SLTSLFCPPP PPPAPGLTPA  
RKFSSTSSLA APGRPHAAAL AHGLARSPSW AADRSKDPPG RAPLPMGLGP LAPPQPLPG  
ELEPGDAASK RKR

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

## Product Details

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### Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human CACNA1I 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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### Endotoxin Level:

Protein is endotoxin free.

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### Grade:

Crystallography grade

## Target Details

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Target:	CACNA1I
Alternative Name:	CACNA1I ( <a href="#">CACNA1I Products</a> )
Background:	Voltage-sensitive calcium channels (VSCC) mediate the entry of calcium ions into excitable cells and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, gene expression, cell motility, cell division and cell death. This channel gives rise to T-type calcium currents. T-type calcium channels belong to the "low-voltage activated (LVA)" group and are strongly blocked by nickel and mibefradil. A particularity of this type of channels is an opening at quite negative potentials, and a voltage-dependent inactivation. T-type channels serve pacemaking functions in both central neurons and cardiac nodal cells and support calcium signaling in secretory cells and vascular smooth muscle. They may also be involved in the modulation of firing patterns of neurons which is important for information processing as well as in cell growth processes. Gates in voltage ranges similar to, but higher than alpha 1G or alpha 1H (By similarity). {ECO:0000250}.
Molecular Weight:	52.1 kDa Including tag.
UniProt:	<a href="#">Q9P0X4</a>

## 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

## Handling

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Storage Comment: Store at -80°C.

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Expiry Date: Unlimited (if stored properly)