

Datasheet for ABIN3132632

## CAMK4 Protein (AA 1-469) (His tag)



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### 1 Image

#### Overview

Quantity:	1 mg
Target:	CAMK4
Protein Characteristics:	AA 1-469
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This CAMK4 protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS), Crystallization (Crys)

#### Product Details

Sequence:	<p>MLKVTVPSCP SSPCSSVTAS TENLVDPYWI DGSNRDPLGD FFEVESELGR GATSIVYRCK</p> <p>QKGTQKPYAL KVLKKTVDKK IVRTEIGVLL RLSHPNIIKL KEIFETPTEI SLVLELVTGG ELFDRIVEKG</p> <p>YYSERDARDA VKQILEAVAY LHENGIVHRD LKPENLLYAT PAPDAPLKIA DFGLSKIVEH</p> <p>QVLMKTVCGT PGYCAPEILR GCAYGPEVDM WSVGIITYIL LCGFEPFYDE RGDQFMFRR</p> <p>LNCEYYFISP WWDEVSLNAK DLVKKLIVLD PKKRLTTFQA LQHPWVTGKA ANFVHMDTAQ</p> <p>KKLQEFNARR KLKA AVKAVV ASSRLGSASS SHTSIQENHK ASSDPPSTQD AKDSTDLLGK</p> <p>KMQEEDQEED QVEAEASADE MRKLQSEEEV KDAGVKEEET SSMVPQDPED ELETDDPEMK</p> <p>RDSEELKLSV EEEMDPMTEE EAPDAGLGVP QQDAIQPEY</p>
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**Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.**

Characteristics:	<ul style="list-style-type: none"> <li>Made in Germany - from design to production - by highly experienced protein experts.</li> <li>Mouse Camk4 Protein (raised in Insect Cells) purified by multi-step, protein-specific process</li> </ul>
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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

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## Target Details

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### Target:

CAMK4

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### Alternative Name:

Camk4 ([CAMK4 Products](#))

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## Target Details

Background:	Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK4 signaling cascade and regulates, mainly by phosphorylation, the activity of several transcription activators, such as CREB1, MEF2D, JUN and RORA, which play pivotal roles in immune response, inflammation, and memory consolidation. In the thymus, regulates the CD4(+)/CD8(+) double positive thymocytes selection threshold during T-cell ontogeny. In CD4 memory T-cells, is required to link T-cell antigen receptor (TCR) signaling to the production of IL2, IFNG and IL4 (through the regulation of CREB and MEF2). Regulates the differentiation and survival phases of osteoclasts and dendritic cells (DCs). Mediates DCs survival by linking TLR4 and the regulation of temporal expression of BCL2. Phosphorylates the transcription activator CREB1 on 'Ser-133' in hippocampal neuron nuclei and contribute to memory consolidation and long term potentiation (LTP) in the hippocampus. Can activate the MAP kinases MAPK1/ERK2, MAPK8/JNK1 and MAPK14/p38 and stimulate transcription through the phosphorylation of ELK1 and ATF2. Can also phosphorylate in vitro CREBBP, PRM2, MEF2A and STMN1/OP18 (By similarity). May be involved in spermatogenesis. {ECO:0000250, ECO:0000269 PubMed:10932193, ECO:0000269 PubMed:11572782, ECO:0000269 PubMed:18829949, ECO:0000269 PubMed:8195196, ECO:0000269 PubMed:9727976}.
Molecular Weight:	53.6 kDa Including tag.
UniProt:	<a href="#">P08414</a>
Pathways:	<a href="#">EGFR Signaling Pathway</a> , <a href="#">Neurotrophin Signaling Pathway</a> , <a href="#">Production of Molecular Mediator of Immune Response</a> , <a href="#">G-protein mediated Events</a> , <a href="#">Interaction of EGFR with phospholipase C-gamma</a>

## 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:	Protein has not been tested for activity yet. 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

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)

## Images



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