

Datasheet for ABIN3134783

**PKC theta Protein (AA 1-707) (His tag)**[Go to Product page](#)**1** Image

## Overview

Quantity:	1 mg
Target:	PKC theta (PRKCQ)
Protein Characteristics:	AA 1-707
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This PKC theta protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

## Product Details

Sequence:	MSPFLRIGLS NFDCGTCQAC QGEAVNPYCA VLVKEYVESE NGQMYIQKKP TMYPPWDSTF DAHINKGRVM QIIVKGKNVD LISETTVELY SLAERCCKNN GRTEIWLELK PQGRMLMNAR YFLEMSDTKD MSEFENEGFF ALHQRRGAIK QAKVHHVKCH EFTATFFPQP TFCSCHEFV WGLNKQGYQC RQCNAAIHKK CIDKVIKCT GSAINSRETM FHKERFKIDM PHRFKVYNYK SPTFCEHCGT LLWGLARQGL KCDACGMNVH HRCQTKVANL CGINQKLMAE ALAMIESTQQ ARSLRDSEHI FREGPVEIGL PCSTKNETRP PCVPTPGKRE PQGISWDSPL DGSNKSAGPP EPEVSMRRTS LQLKLKIDDF ILHKMLGKGS FGKVFLAEFK RTNQFFAIKA LKKDVLMDDD DVECTMVEKR VLSLAWEHPF LTHMFCTFQT KENLFFVMEY LNGGDLMYHI QSCHKFDLSR ATFYAAEVIL GLQFLHSGKI VYRDLKLDNI LLDRDGHKI ADFGMCKENM LGDAKTNTFC GTPDYIAPEI LLGQKYNHSV DWWSFGVLVY EMLIGQSPFH GQDEEELFHS IRMDNPFYPR WLREAKDLL VKLFVREPEK RLGVRGDIRQ HPLFREINWE ELERKEIDPP FRPKVKSPYD CSNFDKEFLS EKPRLSFADR ALINSMDQNM FSNFSFINPG METLICS
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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:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Prkcq 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.

### 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.

### Purity:

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

### Sterility:

0.22 µm filtered

### Endotoxin Level:

Protein is endotoxin free.

### Grade:

Crystallography grade

## Target Details

Target: PKC theta (PRKCQ)

Alternative Name: Prkcq ([PRKCQ Products](#))

Background: Calcium-independent, phospholipid- and diacylglycerol (DAG)-dependent serine/threonine-protein kinase that mediates non-redundant functions in T-cell receptor (TCR) signaling, including T-cells activation, proliferation, differentiation and survival, by mediating activation of multiple transcription factors such as NF-kappa-B, JUN, NFATC1 and NFATC2. In TCR-CD3/CD28-co-stimulated T-cells, is required for the activation of NF-kappa-B and JUN, which in turn are essential for IL2 production, and participates to the calcium-dependent NFATC1 and NFATC2 transactivation. Mediates the activation of the canonical NF-kappa-B pathway (NFKB1) by direct phosphorylation of CARD11 on several serine residues, inducing CARD11 association with lipid rafts and recruitment of the BCL10-MALT1 complex, which then activates IKK complex, resulting in nuclear translocation and activation of NFKB1. May also play an indirect role in activation of the non-canonical NF-kappa-B (NFKB2) pathway. In the signaling pathway leading to JUN activation, acts by phosphorylating the mediator STK39/SPAK and may not act through MAP kinases signaling. Plays a critical role in TCR/CD28-induced NFATC1 and NFATC2 transactivation by participating in the regulation of reduced inositol 1,4,5-trisphosphate generation and intracellular calcium mobilization. After costimulation of T-cells through CD28 can phosphorylate CBLB and is required for the ubiquitination and subsequent degradation of CBLB, which is a prerequisite for the activation of TCR. During T-cells differentiation, plays an important role in the development of T-helper 2 (Th2) cells following immune and inflammatory responses, and, in the development of inflammatory autoimmune diseases, is necessary for the activation of IL17-producing Th17 cells. May play a minor role in Th1 response. Upon TCR stimulation, mediates T-cell protective survival signal by phosphorylating BAD, thus protecting T-cells from BAD-induced apoptosis, and by up-regulating BCL-X(L)/BCL2L1 levels through NF-kappa-B and JUN pathways. In platelets, regulates signal transduction downstream of the ITGA2B, CD36/GP4, F2R/PAR1 and F2RL3/PAR4 receptors, playing a positive role in 'outside-in' signaling and granule secretion signal transduction. May relay signals from the activated ITGA2B receptor by regulating the uncoupling of WASP and WIPF1, thereby permitting the regulation of actin filament nucleation and branching activity of the Arp2/3 complex. May mediate inhibitory effects of free fatty acids on insulin signaling by phosphorylating IRS1, which in turn blocks IRS1 tyrosine phosphorylation and downstream activation of the PI3K/AKT pathway. Phosphorylates MSN (moesin) in the presence of phosphatidylglycerol or phosphatidylinositol. Phosphorylates PDPK1 at 'Ser-504' and 'Ser-532' and negatively regulates its ability to phosphorylate PKB/AKT1. {ECO:0000269|PubMed:10746729, ECO:0000269|PubMed:12782715, ECO:0000269|PubMed:1508194,

## Target Details

	ECO:0000269 PubMed:15263025, ECO:0000269 PubMed:16493044, ECO:0000269 PubMed:19047061}.
Molecular Weight:	82.5 kDa Including tag.
UniProt:	<a href="#">Q02111</a>
Pathways:	<a href="#">TCR Signaling</a> , <a href="#">Fc-epsilon Receptor Signaling Pathway</a> , <a href="#">Myometrial Relaxation and Contraction</a> , <a href="#">Regulation of G-Protein Coupled Receptor Protein Signaling</a> , <a href="#">Thromboxane A2 Receptor Signaling</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)



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