

Datasheet for ABIN3135498

PKC mu Protein (AA 1-918) (His tag)[Go to Product page](#)**1** Image

Overview

Quantity:	1 mg
Target:	PKC mu (PRKD1)
Protein Characteristics:	AA 1-918
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This PKC mu protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	<p>MSPVPLLRRPP SPLLPAAAV AAAAAALVPG SGPAPFPAPG AAPAGGISFH LQIGLSREPV LLLQDSSGDY SLAHVREMAC SIVDQKFPEC GFYGLYDKIL LFRHDPASDN ILQLVKIASD IQEGDLIEV LSASATFEDF QIRPHALFVH SYRAPAFCDH CGEMLWGLVR QGLKCEGCGL NYHKRCAFKI PNNCSGVRRL RLSNVSLTGL GTVRTASAEF STSVPDEPLL SPVSPGFQEQK SPSEFIGRE KRSNSQSYIG RPIQLDKLLM SKVKVPHTFV IHSYTRPTVC QFCKKLLKGL FRQLQCKDC RFNCHKRCAP KVPNNCLGEV TINGELLSPG AESDVVMEEG SDDNDSERNS GLMDDMDEAM VQDTEMALAE GQSGGAEMQD PDADQEDSNR TISPSTSNNI PLMRVVQSVK HTKRRSSTVM KEGWMVHYTS KDTLRKRHYW RLDSKCITLF QNDTGSRYRK EIPLSEILCL EPAKPSALTP VGATPHCFEI TTANVVYYVG ENVVNPSSSP PNNSVLPSGI GPDVARMWEV AIQHALMPVI PKGSSVGSGS NSHKDISVSI SVSNCQIQEN VDISTVYQIF PDEVLGSGQF GIVYGGKHRK TGRDVAIKII DKLRFPTKQE SQLRNEVAIL QNLHHPGVVN LECMFETPER VFVVMKELHG DMLEMILSSE KGRLPEHITK FLITQILVAL RHLHFKNIVH CDLKPENVLL</p>
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ASADPFQVK LCDFGFARII GEKSFRRSVV GTPAYLAPEV LRNKGYNRSL DMWSVGVIYY
VLSGTFPFN EDEDIHDQIQ NAAFMYPPNP WKEISHEAID LINNLLQVKM RKRYSDVKTL
SHPWLQDYQT WLDLRELECR IGERYITHES DDSRWEQYAG EQGLQYPAHL ISLSASHSDS
PEAEEREMKA LSERVSIL

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 Prkd1 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.

Product Details

Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin free.
Grade:	Crystallography grade

Target Details

Target:	PKC mu (PRKD1)
Alternative Name:	Prkd1 (PRKD1 Products)

Background:	<p>Serine/threonine-protein kinase that converts transient diacylglycerol (DAG) signals into prolonged physiological effects downstream of PKC, and is involved in the regulation of MAPK8/JNK1 and Ras signaling, Golgi membrane integrity and trafficking, cell survival through NF-kappa-B activation, cell migration, cell differentiation by mediating HDAC7 nuclear export, cell proliferation via MAPK1/3 (ERK1/2) signaling, and plays a role in cardiac hypertrophy, VEGFA-induced angiogenesis, genotoxic-induced apoptosis and flagellin-stimulated inflammatory response. Phosphorylates the epidermal growth factor receptor (EGFR) on dual threonine residues, which leads to the suppression of epidermal growth factor (EGF)-induced MAPK8/JNK1 activation and subsequent JUN phosphorylation. Phosphorylates RIN1, inducing RIN1 binding to 14-3-3 proteins YWHAB, YWHAЕ and YWHAZ and increased competition with RAF1 for binding to GTP-bound form of Ras proteins (NRAS, HRAS and KRAS). Acts downstream of the heterotrimeric G-protein beta/gamma-subunit complex to maintain the structural integrity of the Golgi membranes, and is required for protein transport along the secretory pathway. In the trans-Golgi network (TGN), regulates the fission of transport vesicles that are on their way to the plasma membrane. May act by activating the lipid kinase phosphatidylinositol 4-kinase beta (PI4KB) at the TGN for the local synthesis of phosphorylated inositol lipids, which induces a sequential production of DAG, phosphatidic acid (PA) and lyso-PA (LPA) that are necessary for membrane fission and generation of specific transport carriers to the cell surface. Under oxidative stress, is phosphorylated at Tyr-469 via SRC-ABL1 and contributes to cell survival by activating IKK complex and subsequent nuclear translocation and activation of NFkB1. Involved in cell migration by regulating integrin alpha-5/beta-3 recycling and promoting its recruitment in newly forming focal adhesion. In osteoblast differentiation, mediates the bone morphogenic protein 2 (BMP2)-induced nuclear export of HDAC7, which results in the inhibition of HDAC7 transcriptional repression of RUNX2. In neurons, plays an important role in neuronal polarity by regulating the biogenesis of TGN-derived dendritic vesicles, and is involved in the maintenance of dendritic arborization and Golgi structure in hippocampal cells. May potentiate mitogenesis induced by the neuropeptide bombesin or</p>
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Target Details

vasopressin by mediating an increase in the duration of MAPK1/3 (ERK1/2) signaling, which leads to accumulation of immediate-early gene products including FOS that stimulate cell cycle progression. Plays an important role in the proliferative response induced by low calcium in keratinocytes, through sustained activation of MAPK1/3 (ERK1/2) pathway. Downstream of novel PKC signaling, plays a role in cardiac hypertrophy by phosphorylating HDAC5, which in turn triggers XPO1/CRM1-dependent nuclear export of HDAC5, MEF2A transcriptional activation and induction of downstream target genes that promote myocyte hypertrophy and pathological cardiac remodeling. Mediates cardiac troponin I (TNNI3) phosphorylation at the PKA sites, which results in reduced myofilament calcium sensitivity, and accelerated crossbridge cycling kinetics. The PRKD1-HDAC5 pathway is also involved in angiogenesis by mediating VEGFA-induced specific subset of gene expression, cell migration, and tube formation. In response to VEGFA, is necessary and required for HDAC7 phosphorylation which induces HDAC7 nuclear export and endothelial cell proliferation and migration. During apoptosis induced by cytarabine and other genotoxic agents, PRKD1 is cleaved by caspase-3 at Asp-378, resulting in activation of its kinase function and increased sensitivity of cells to the cytotoxic effects of genotoxic agents. In epithelial cells, is required for transducing flagellin-stimulated inflammatory responses by binding and phosphorylating TLR5, which contributes to MAPK14/p38 activation and production of inflammatory cytokines. May play a role in inflammatory response by mediating activation of NF-kappa-B. May be involved in pain transmission by directly modulating TRPV1 receptor. Plays a role in activated KRAS-mediated stabilization of ZNF304 in colorectal cancer (CRC) cells (By similarity).

{ECO:0000250|UniProtKB:Q15139, ECO:0000269|PubMed:11239398, ECO:0000269|PubMed:11784866, ECO:0000269|PubMed:12407104, ECO:0000269|PubMed:14963034, ECO:0000269|PubMed:15192707, ECO:0000269|PubMed:19029091, ECO:0000269|PubMed:20463010, ECO:0000269|PubMed:24161911}.

Molecular Weight:	103.0 kDa Including tag.
UniProt:	Q62101
Pathways:	Myometrial Relaxation and Contraction

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.
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Application Details

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