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Datasheet for ABIN3134604

PKC gamma Protein (AA 1-697) (Strep Tag)

Overview

Quantity:	1 mg
Target:	PKC gamma (PRKCG)
Protein Characteristics:	AA 1-697
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PKC gamma protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MAGLGPGGGD SEGGPRPLFC RKGALRQKVV HEVKSHKFTA RFFKQPTFCS HCTDFIWGIG
KQGLQCQVCS FVVHRRCHEF VTFECPGAGK GPQTDDPRNK HKFRLHSYSS PTFCDHCGSL
LYGLVHQGMK CSCCEMNVHR RCVRSVPSLC GVDHTERRGR LQLEIRAPTS DEIHITVGEA
RNLIPMDPNG LSDPYVKLKL IPDPRNLTKQ KTKTKVATLN PVWNETFVFN LKPGDVERRL
SVEVWDWDRT SRNDFMGAMS FGVSELLKAP VDGWYKLLNQ EEEGYYNVPV ADADNCSLLQ
KFEACNYPLE LYERVRMGPS SSIPIPSPPS PTDSKRCFFG ASPGRLHISD FSFLMVLGKG
SFGKVMLAER RGSDELYAIK ILKKDVIVQD DDVDCTLVEK RVLALGGRGP GGRPHFLTQL
HSTFQTPDRL YFVMEYVTGG DLMYHIQQLG KFKEPHAAFY AAEIAIGLFF LHNQGIYRD
LKLDNVMLDA EGHKITDFG MCKENVFPGS TTRTFCGTPD YIAPEIIAYQ PYGKSVDWWS
FGVLLYEMLA GQPPFDGEDE EELFQAIMEQ TVTYPKSLSR EAVAICKGFL TKHPGKRLGS
GPDGEPTIRA HGFFRWIDWE RLERLEIAPP FRPRPCGRSG ENFDKFFTRA APALTPPDRL
VLASIDQADF QGFTYVNPFD VHPDARSPTS PVPVPVM

Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- 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.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- 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.
- We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

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1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. 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: $\geq 80\%$ as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Endotoxin Level: Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

Target Details

Target: PKC gamma (PRKCG)

Alternative Name: Prkcg ([PRKCG Products](#))

Background: Protein kinase C gamma type (PKC-gamma) (EC 2.7.11.13),FUNCTION: Calcium-activated, phospholipid- and diacylglycerol (DAG)-dependent serine/threonine-protein kinase that plays diverse roles in neuronal cells and eye tissues, such as regulation of the neuronal receptors GRIA4/GLUR4 and GRIN1/NMDAR1, modulation of receptors and neuronal functions related to sensitivity to opiates, pain and alcohol, mediation of synaptic function and cell survival after ischemia, and inhibition of gap junction activity after oxidative stress. Binds and phosphorylates GRIA4/GLUR4 glutamate receptor and regulates its function by increasing plasma membrane-associated GRIA4 expression. In primary cerebellar neurons treated with the agonist 3,5-dihydroxyphenylglycine, functions downstream of the metabotropic glutamate receptor GRM5/MGLUR5 and phosphorylates GRIN1/NMDAR1 receptor which plays a key role in synaptic plasticity, synaptogenesis, excitotoxicity, memory acquisition and learning. May be involved in the regulation of hippocampal long-term potentiation (LTP), but may be not necessary for the process of synaptic plasticity. May be involved in desensitization of mu-type opioid receptor-mediated G-protein activation in the spinal cord, and may be critical for the development and/or maintenance of morphine-induced reinforcing effects in the limbic forebrain. May modulate the functionality of mu-type-opioid receptors by participating in a signaling pathway which leads to the phosphorylation and degradation of opioid receptors. May also contribute to chronic morphine-induced changes in nociceptive processing. Plays a role in neuropathic pain mechanisms and contributes to the maintenance of the allodynia pain produced by peripheral inflammation. Plays an important role in initial sensitivity and tolerance to ethanol, by mediating the behavioral effects of ethanol as well as the effects of this drug on the GABA(A) receptors. During and after cerebral ischemia modulate neurotransmission and cell survival in synaptic membranes, and is involved in insulin-induced inhibition of necrosis, an

Target Details

important mechanism for minimizing ischemic injury. Required for the elimination of multiple climbing fibers during innervation of Purkinje cells in developing cerebellum. Is activated in lens epithelial cells upon hydrogen peroxide treatment, and phosphorylates connexin-43 (GJA1/CX43), resulting in disassembly of GJA1 gap junction plaques and inhibition of gap junction activity which could provide a protective effect against oxidative stress.

Phosphorylates p53/TP53 and promotes p53/TP53-dependent apoptosis in response to DNA damage. Involved in the phase resetting of the cerebral cortex circadian clock during temporally restricted feeding. Stabilizes the core clock component BMAL1 by interfering with its ubiquitination, thus suppressing its degradation, resulting in phase resetting of the cerebral cortex clock (PubMed:23185022). {ECO:0000269|PubMed:11246146, ECO:0000269|PubMed:11278552, ECO:0000269|PubMed:11356858, ECO:0000269|PubMed:11731061, ECO:0000269|PubMed:17904530, ECO:0000269|PubMed:23185022, ECO:0000269|PubMed:8269509, ECO:0000269|PubMed:9323205}.

Molecular Weight: 78.4 kDa

UniProt: [P63318](#)

Pathways: [WNT Signaling](#), [EGFR Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Thyroid Hormone Synthesis](#), [Myometrial Relaxation and Contraction](#), [G-protein mediated Events](#), [Positive Regulation of Response to DNA Damage Stimulus](#), [Interaction of EGFR with phospholipase C-gamma](#), [Thromboxane A2 Receptor Signaling](#), [VEGF Signaling](#)

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

needed is the DNA that codes for the desired protein!

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)