Recombinant Human PRKCA Protein (A2-V672), GST tagged

Cat. No. PRKCA-0188H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human GST-TEV-GG-PKCα(A2-V672 end) Protein was expressed in Insect cell.
Species	Human
Source	Insect Cells
ProteinLength	A2-V672
Description	Calcium-activated, phospholipid- and diacylglycerol (DAG)-dependent serine/threonine-protein kinase that is involved in positive and negative regulation of cell proliferation, apoptosis, differentiation, migration and adhesion, tumorigenesis, cardiac hypertrophy, angiogenesis, platelet function and inflammation, by directly phosphorylating targets such as RAF1, BCL2, CSPG4, TNNT2/CTNT, or activating signaling cascade involving MAPK1/3 (ERK1/2) and RAP1GAP. Involved in cell proliferation and cell growth arrest by positive and negative regulation of the cell cycle. Can promote cell growth by phosphorylating and activating RAF1, which mediates the activation of the MAPK/ERK signaling cascade, and/or by up-regulating CDKN1A, which facilitates active cyclin-dependent kinase (CDK) complex formation in glioma cells. In intestinal cells stimulated by the phorbol ester PMA, can trigger a cell cycle arrest program which is associated with the accumulation of the hyper-phosphorylated growth-suppressive form of RB1 and induction of the CDK inhibitors CDKN1A and CDKN1B. Exhibits anti-apoptotic function in glioma cells and protects them from apoptosis by suppressing the p53/TP53-mediated activation of IGFBP3, and in leukemia cells mediates anti-apoptotic action

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by phosphorylating BCL2. During macrophage differentiation induced by macrophage colony-stimulating factor (CSF1), is translocated to the nucleus and is associated with macrophage development. After wounding, translocates from focal contacts to lamelli podia and participates in the modulation of desmosomal adhesion. Plays a role in cell motility by phosphorylating CSPG4, which induces association of CSPG4 with extensi ve lamellipodia at the cell periphery and polarization of the cell accompanied by incre ases in cell motility. During chemokine-induced CD4(+) T cell migration, phosphorylat es CDC42-guanine exchange factor DOCK8 resulting in its dissociation from LRCH1 and the activation of GTPase CDC42. Is highly expressed in a number of cancer cells where it can act as a tumor promoter and is implicated in malignant phenotypes of se veral tumors such as gliomas and breast cancers. Negatively regulates myocardial co ntractility and positively regulates angiogenesis, platelet aggregation and thrombus fo rmation in arteries. Mediates hypertrophic growth of neonatal cardiomyocytes, in part through a MAPK1/3 (ERK1/2)-dependent signaling pathway, and upon PMA treatmen t, is required to induce cardiomyocyte hypertrophy up to heart failure and death, by in creasing protein synthesis, protein-DNA ratio and cell surface area. Regulates cardio myocyte function by phosphorylating cardiac troponin T (TNNT2/CTNT), which induce s significant reduction in actomyosin ATPase activity, myofilament calcium sensitivity and myocardial contractility. In angiogenesis, is required for full endothelial cell migrati on, adhesion to vitronectin (VTN), and vascular endothelial growth factor A (VEGFA)-dependent regulation of kinase activation and vascular tube formation. Involved in the stabilization of VEGFA mRNA at post-transcriptional level and mediates VEGFA-indu ced cell proliferation. In the regulation of calcium-induced platelet aggregation, mediat es signals from the CD36/GP4 receptor for granule release, and activates the integrin heterodimer ITGA2B-ITGB3 through the RAP1GAP pathway for adhesion. During res ponse to lipopolysaccharides (LPS), may regulate selective LPS-induced macrophag e functions involved in host defense and inflammation. But in some inflammatory resp onses, may negatively regulate NF-kappa-B-induced genes, through IL1A-dependent induction of NF-kappa-B inhibitor alpha (NFKBIA/IKBA). Upon stimulation with 12-O-t etradecanoylphorbol-13-acetate (TPA), phosphorylates EIF4G1, which modulates EIF

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	4G1 binding to MKNK1 and may be involved in the regulation of EIF4E phosphorylation. Phosphorylates KIT, leading to inhibition of KIT activity. Phosphorylates ATF2 which promotes cooperation between ATF2 and JUN, activating transcription. Phosphorylates SOCS2 at 'Ser-52' facilitating its ubiquitination and proteosomal degradation.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	PRKCA protein kinase C, alpha [Homo sapiens (human)]
Official Symbol	PRKCA
Synonyms	PRKCA; protein kinase C, alpha; PKCA; protein kinase C alpha type; PKC-A; aging-associated gene 6; AAG6; PRKACA; PKC-alpha; MGC129900; MGC129901;
Gene ID	5578
mRNA Refseq	NM_002737

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Protein Refseq	NP_002728
MIM	176960
UniProt ID	P17252

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