

Datasheet for ABIN7180072

anti-PKC alpha antibody (Tyr657)[Go to Product page](#)**1** Image

Overview

Quantity:	100 µL
Target:	PKC alpha (PKCa)
Binding Specificity:	Tyr657
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This PKC alpha antibody is un-conjugated
Application:	Western Blotting (WB), ELISA

Product Details

Immunogen:	Synthesized non-phosphopeptide derived from Human PKC alpha around the phosphorylation site of tyrosine 657 (F-S-Y(p)-V-N).
Isotype:	IgG
Cross-Reactivity:	Human, Mouse, Rat
Purification:	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.

Target Details

Target:	PKC alpha (PKCa)
Alternative Name:	PRKCA (PKCa Products)

Background:

Background: 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 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 lamellipodia and participates in the modulation of desmosomal adhesion. Plays a role in cell motility by phosphorylating CSPG4, which induces association of CSPG4 with extensive lamellipodia at the cell periphery and polarization of the cell accompanied by increases in cell motility. Is highly expressed in a number of cancer cells where it can act as a tumor promoter and is implicated in malignant phenotypes of several tumors such as gliomas and breast cancers. Negatively regulates myocardial contractility and positively regulates angiogenesis, platelet aggregation and thrombus formation in arteries. Mediates hypertrophic growth of neonatal cardiomyocytes, in part through a MAPK1/3 (ERK1/2)-dependent signaling pathway, and upon PMA treatment, is required to induce cardiomyocyte hypertrophy up to heart failure and death, by increasing protein synthesis, protein-DNA ratio and cell surface area. Regulates cardiomyocyte function by phosphorylating cardiac troponin T (TNNT2/CTNT), which induces significant reduction in actomyosin ATPase activity, myofilament calcium sensitivity and myocardial contractility. In angiogenesis, is required for full endothelial cell migration, 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-induced cell proliferation. In the regulation of calcium-induced platelet aggregation, mediates signals from the CD36/GP4 receptor for granule release, and activates the integrin heterodimer ITGA2B-ITGB3 through the RAP1GAP pathway for adhesion. During response to lipopolysaccharides (LPS), may regulate selective

Target Details

LPS-induced macrophage functions involved in host defense and inflammation. But in some inflammatory responses, 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-tetradecanoylphorbol-13-acetate (TPA), phosphorylates EIF4G1, which modulates EIF4G1 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. Finkenzeller G., Nucleic Acids Res. 18:2183-2183(1990). The MGC Project Team, Genome Res. 14:2121-2127(2004). McSwine-Kennick R.L., J. Biol. Chem. 266:15135-15143(1991).

Aliases: KPCA_HUMAN antibody, PKC alpha antibody, PKC beta antibody, PKC delta antibody, PKC epsilon antibody, PKC gamma antibody, PKC zeta antibody, PKC-A antibody, PKC-alpha antibody, PKC2 antibody, PKCA antibody, PKCB antibody, PKCD antibody, PKCE antibody, PKCG antibody, PRKCA antibody, PRKCB antibody, PRKCB1 antibody, PRKCB2 antibody, PRKCD antibody, PRKCE antibody, PRKCG antibody, PRKCZ antibody, Protein kinase C alpha antibody, Protein kinase C alpha type antibody, Protein kinase C antibody, Protein kinase C beta antibody, Protein kinase C delta antibody, Protein kinase C epsilon antibody, Protein kinase C gamma antibody, Protein kinase C zeta antibody

UniProt: [P17252](#)

Pathways: [WNT Signaling](#), [TCR Signaling](#), [EGFR Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Thyroid Hormone Synthesis](#), [cAMP Metabolic Process](#), [Myometrial Relaxation and Contraction](#), [Cell-Cell Junction Organization](#), [Regulation of G-Protein Coupled Receptor Protein Signaling](#), [G-protein mediated Events](#), [Signaling Events mediated by VEGFR1 and VEGFR2](#), [Interaction of EGFR with phospholipase C-gamma](#), [Thromboxane A2 Receptor Signaling](#), [VEGFR1 Specific Signals](#), [VEGF Signaling](#)

Application Details

Application Notes: WB:1:500-1:3000,

Restrictions: For Research Use only

Handling

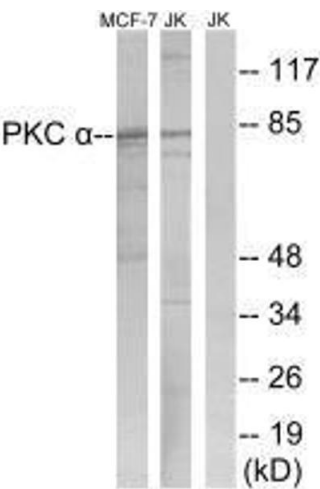
Format: Liquid

Buffer: Rabbit IgG in phosphate buffered saline (without Mg²⁺ and Ca²⁺), pH 7.4, 150 mM NaCl, 0.02 % sodium azide and 50 % glycerol.

Handling

Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Images



Western Blotting

Image 1. Western blot analysis of extracts from MCF-7 cells and Jurkat cells, using PKC α (Ab-657) antibody.