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Datasheet for ABIN5557396  
**anti-PKC alpha antibody (pThr638)**

4 Images

Overview

Quantity:	100 µL
Target:	PKC alpha (PKCa)
Binding Specificity:	pThr638
Reactivity:	Human, Mouse
Host:	Rabbit
Clonality:	Monoclonal
Conjugate:	This PKC alpha antibody is un-conjugated
Application:	Western Blotting (WB), Flow Cytometry (FACS), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunofluorescence (Cultured Cells) (IF (cc))

Product Details

Immunogen:	Synthetic peptide derived from human PRKCA around PRKCA (Thr638)
Clone:	4B3
Isotype:	IgG
Cross-Reactivity:	Human, Mouse
Purification:	Purified by Protein A.

Target Details

Target:	PKC alpha (PKCa)
Alternative Name:	PRKCA ( <a href="#">PKCa Products</a> )

## Target Details

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### Background:

Synonyms: AAG6, PKCA, PRKACA, PKC-alpha, Protein kinase C alpha type, PKC-A, PRKCA

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

## Target Details

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pathway for adhesion. During response to lipopolysaccharides (LPS), may regulate selective 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).

Gene ID: 5578

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

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Application Notes: WB 1:300-5000  
FCM 1:20-100  
IHC-P 1:200-400  
IF(ICC) 1:50-200

Restrictions: For Research Use only

## Handling

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Format: Liquid

Concentration: 1 µg/µL

Buffer: Aqueous buffered solution containing 1xTBS ( pH 7.4), 1 % BSA, 40 %Glycerol and 0.05 % Sodium Azide.

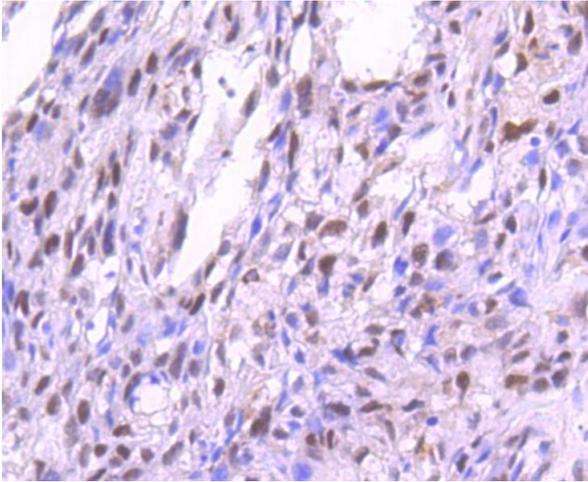
Preservative: ProClin

Precaution of Use: This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only.

Storage: 4 °C,-20 °C

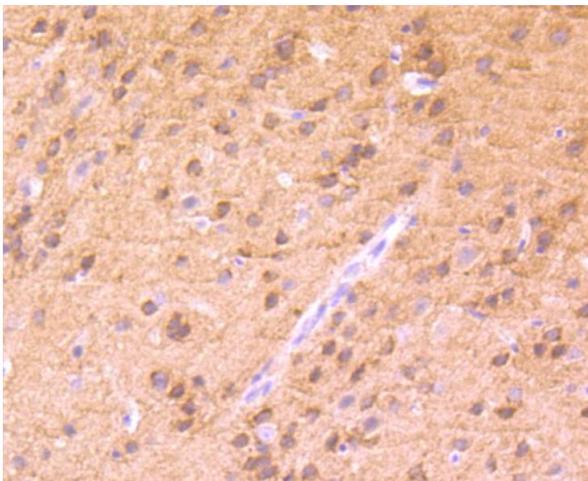
Storage Comment: Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Expiry Date: 12 months



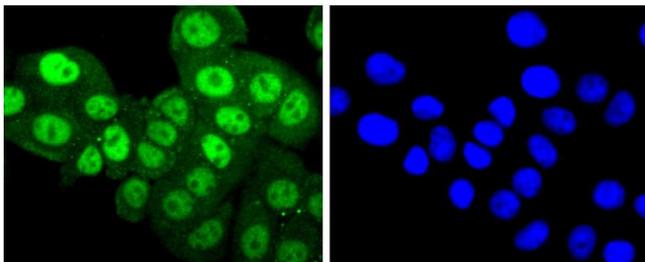
#### Immunohistochemistry (Paraffin-embedded Sections)

**Image 1.** Paraformaldehyde-fixed, paraffin embedded human breast carcinoma, Antigen retrieval by boiling in sodium citrate buffer (pH6) for 15min, Block endogenous peroxidase by 3% hydrogen peroxide for 30 minutes, Blocking buffer (normal serum) at 37°C for 20min, Antibody incubation with PKC alpha(T638) (4B3) Monoclonal Antibody at 1:50 overnight at 4°C, followed by a conjugated secondary and DAB staining.



#### Immunohistochemistry (Paraffin-embedded Sections)

**Image 2.** Paraformaldehyde-fixed, paraffin embedded mouse brain tissue, Antigen retrieval by boiling in sodium citrate buffer (pH6) for 15min, Block endogenous peroxidase by 3% hydrogen peroxide for 30 minutes, Blocking buffer (normal serum) at 37°C for 20min, Antibody incubation with PKC alpha(T638) (4B3) Monoclonal Antibody at 1:50 overnight at 4°C, followed by a conjugated secondary and DAB staining.



#### Immunofluorescence (Cultured Cells)

**Image 3.** MCF-7 cells were fixed with paraformaldehyde, permeabilized with 0.25% Triton X-100 in PBS, blocked with 10% normal goat serum in PBS, and stained with PKC alpha(T638) (4B3) Monoclonal Antibody at 1:200 in blocking solution. Slides were incubated overnight at 4°C followed by FITC conjugated secondary antibody incubation. DAPI staining of the nucleus (blue)

Please check the [product details page](#) for more images. Overall 4 images are available for ABIN5557396.