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PKC delta Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP7018a

Specification

PKC delta Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q05655

PKC delta Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 5580

Other Names
Protein kinase C delta type, Tyrosine-protein kinase PRKCD, nPKC-delta, Protein kinase C delta type regulatory subunit, Protein kinase C delta type catalytic subunit, Sphingosine-dependent protein kinase-1, SDK1, PRKCD

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7018a was selected from the N-term region of human PKC delta . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PKC delta Antibody (N-term) Blocking Peptide - Protein Information

Name PRKCD (HGNC:9399)

Function
Calcium-independent, phospholipid- and diacylglycerol (DAG)- dependent serine/threonine-protein kinase that plays contrasting roles in cell death and cell survival by functioning as a pro-apoptotic protein during DNA damage-induced apoptosis, but acting as an anti- apoptotic protein during cytokine receptor-initiated cell death, is involved in tumor suppression as well as survival of several cancers, is required for oxygen radical production by NADPH oxidase and acts as positive or negative regulator in platelet functional responses (PubMed:21810427, PubMed:21406692). Negatively regulates B cell proliferation and also has an important function in self-antigen induced B cell tolerance induction (By similarity). Upon DNA damage, activates the promoter of the

death-promoting transcription factor BCLAF1/Btf to trigger BCLAF1-mediated p53/TP53 gene transcription and apoptosis (PubMed:21810427, PubMed:21406692). In response to oxidative stress, interact with and activate CHUK/IKKA in the nucleus, causing the phosphorylation of p53/TP53 (PubMed:21810427, PubMed:21406692). In the case of ER stress or DNA damage-induced apoptosis, can form a complex with the tyrosine-protein kinase ABL1 which trigger apoptosis independently of p53/TP53 (PubMed:21810427, PubMed:21406692). In cytosol can trigger apoptosis by activating MAPK11 or MAPK14, inhibiting AKT1 and decreasing the level of X-linked inhibitor of apoptosis protein (XIAP), whereas in nucleus induces apoptosis via the activation of MAPK8 or MAPK9. Upon ionizing radiation treatment, is required for the activation of the apoptosis regulators BAX and BAK, which trigger the mitochondrial cell death pathway. Can phosphorylate MCL1 and target it for degradation which is sufficient to trigger for BAX activation and apoptosis. Is required for the control of cell cycle progression both at G1/S and G2/M phases. Mediates phorbol 12-myristate 13-acetate (PMA)-induced inhibition of cell cycle progression at G1/S phase by up-regulating the CDK inhibitor CDKN1A/p21 and inhibiting the cyclin CCNA2 promoter activity. In response to UV irradiation can phosphorylate CDK1, which is important for the G2/M DNA damage checkpoint activation (By similarity). Can protect glioma cells from the apoptosis induced by TNFSF10/TRAIL, probably by inducing increased phosphorylation and subsequent activation of AKT1 (PubMed:15774464). Is highly expressed in a number of cancer cells and promotes cell survival and resistance against chemotherapeutic drugs by inducing cyclin D1 (CCND1) and hyperphosphorylation of RB1, and via several pro-survival pathways, including NF-kappa-B, AKT1 and MAPK1/3 (ERK1/2). Involved in antifungal immunity by mediating phosphorylation and activation of CARD9 downstream of C-type lectin receptors activation, promoting interaction between CARD9 and BCL10, followed by activation of NF- kappa-B and MAP kinase p38 pathways (By similarity). Can also act as tumor suppressor upon mitogenic stimulation with PMA or TPA. In N- formyl-methionyl-leucyl-phenylalanine (fMLP)-treated cells, is required for NCF1 (p47-phox) phosphorylation and activation of NADPH oxidase activity, and regulates TNF-elicited superoxide anion production in neutrophils, by direct phosphorylation and activation of NCF1 or indirectly through MAPK1/3 (ERK1/2) signaling pathways (PubMed:19801500). May also play a role in the regulation of NADPH oxidase activity in eosinophil after stimulation with IL5, leukotriene B4 or PMA (PubMed:11748588). In collagen-induced platelet aggregation, acts a negative regulator of filopodia formation and actin polymerization by interacting with and negatively regulating VASP phosphorylation (PubMed:16940418). Downstream of PAR1, PAR4 and CD36/GP4 receptors, regulates differentially platelet dense granule secretion; acts as a positive regulator in PAR-mediated granule secretion, whereas it negatively regulates CD36/GP4-mediated granule release (PubMed:19587372). Phosphorylates MUC1 in the C-terminal and regulates the interaction between MUC1 and beta-catenin (PubMed:11877440). The catalytic subunit phosphorylates 14-3-3 proteins (YWHAB, YWHAZ and YWHAH) in a sphingosine-dependent fashion (By similarity). Phosphorylates ELAVL1 in response to angiotensin-2 treatment (PubMed:18285462). Phosphorylates mitochondrial phospholipid scramblase 3 (PLSCR3), resulting in increased cardiolipin expression on the mitochondrial outer membrane which facilitates apoptosis (PubMed:12649167). Phosphorylates SMPD1 which induces SMPD1 secretion (PubMed:17303575).

Cellular Location

Cytoplasm. Cytoplasm, perinuclear region. Nucleus. Cell membrane; Peripheral membrane protein Mitochondrion. Endomembrane system. Note=Translocates to the mitochondria upon apoptotic stimulation. Upon activation, translocates to the plasma membrane followed by partial location to the endolysosomes (PubMed:17303575).

PKC delta Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

PKC delta Antibody (N-term) Blocking Peptide - Images

PKC delta Antibody (N-term) Blocking Peptide - Background

Protein kinase C (PKC) is a family of serine- and threonine-specific protein kinases that can be activated by calcium and second messenger diacylglycerol. PKC family members phosphorylate a wide variety of protein targets and are known to be involved in diverse cellular signaling pathways. PKC family members also serve as major receptors for phorbol esters, a class of tumor promoters. Each member of the PKC family has a specific expression profile and is believed to play a distinct role in cells. PKC delta is one of the PKC family members, and may play a role in antigen-dependent control of B-cell function.

PKC delta Antibody (N-term) Blocking Peptide - References

Nomoto, S., et al., Genes Cells 2(10):601-614 (1997).Aris, J.P., et al., Biochim. Biophys. Acta 1174(2):171-181 (1993).