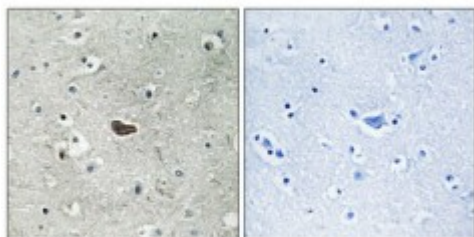


Anti-PKC delta antibody



Description	Rabbit polyclonal to PKC delta.
Model	STJ95126
Host	Rabbit
Reactivity	Human
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human PKC delta around the non-phosphorylation site of S645.
Immunogen Region	580-660 aa
Gene ID	5580
Gene Symbol	PRKCD
Dilution range	WB 1:500-1:2000IHC 1:100-1:300ELISA 1:10000
Specificity	PKC delta Polyclonal Antibody detects endogenous levels of PKC delta protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	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
Molecular Weight	77 kDa

Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:93990MIM:176977
Alternative 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
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. Negatively regulates B cell proliferation and also has an important function in self-antigen induced B cell tolerance induction. Upon DNA damage, activates the promoter of the death-promoting transcription factor BCLAF1/Btf to trigger BCLAF1-mediated p53/TP53 gene transcription and apoptosis. In response to oxidative stress, interact with and activate CHUK/IKKA in the nucleus, causing the phosphorylation of p53/TP53. 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. 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. Can protect glioma cells from the apoptosis induced by TNFSF10/TRAIL, probably by inducing increased phosphorylation and subsequent activation of AKT1. 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). 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. May also play a role in the regulation of NADPH oxidase activity in eosinophil after stimulation with IL5, leukotriene B4 or PMA. In collagen-induced platelet aggregation, acts a negative regulator of filopodia formation and actin polymerization by interacting with and negatively regulating VASP phosphorylation. 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. Phosphorylates MUC1 in the C-terminal and regulates the interaction between MUC1 and beta-catenin. The catalytic subunit phosphorylates 14-3-3 proteins (YWHAB, YWHAZ and YWHAH) in a sphingosine-dependent fashion . Phosphorylates ELAVL1 in response to angiotensin-2 treatment .

Sequence and Domain Family

The C1 domain, containing the phorbol ester/DAG-type region 1 (C1A) and 2 (C1B), is the diacylglycerol sensor.; The C2 domain is a non-calcium binding domain. It binds proteins containing phosphotyrosine in a sequence-specific manner.

Cellular Localization

Cytoplasm Cytoplasm, perinuclear region Nucleus Cell membrane

Post-translational Modifications

Autophosphorylated and/or phosphorylated at Thr-507, within the activation loop; phosphorylation at Thr-507 is not a prerequisite for enzymatic activity. Autophosphorylated at Ser-299, Ser-302 and Ser-304. Upon TNFSF10/TRAIL treatment, phosphorylated at Tyr-155; phosphorylation is required for its translocation to the endoplasmic reticulum and cleavage by caspase-3. Phosphorylated at Tyr-313, Tyr-334 and Tyr-567; phosphorylation of Tyr-313 and Tyr-567 following thrombin stimulation potentiates its kinase activity. Phosphorylated by protein kinase PDPK1; phosphorylation is inhibited by the apoptotic C-terminal cleavage product of PKN2. Proteolytically cleaved into a catalytic subunit and a regulatory subunit by caspase-3 during apoptosis which results in kinase activation.