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Anti-PKC Beta 1 Picoband Antibody

Catalog # ABO12010

Product Information

Application	WB
Primary Accession	P05771
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Protein kinase C beta type(PRKCB) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	5579
Other Names	Protein kinase C beta type, PKC-B, PKC-beta, 2.7.11.13, PRKCB, PKCB, PRKCB1
Calculated MW	76869
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Cytoplasm . Nucleus . Membrane ; Peripheral membrane protein .
Source	Eukaryota
Protein Name	Protein kinase C beta type
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human PKC beta 1 recombinant protein (Position: E542-V671). Human PKC beta 1 shares 100% amino acid (aa) sequence identity with both mouse and rat PKC beta 1.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. PKC subfamily.

Protein Information

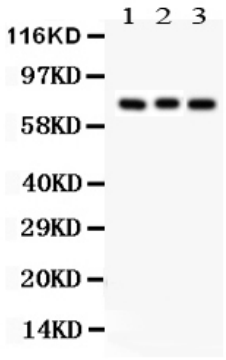
Name	PRKCB
Synonyms	PKCB, PRKCB1
Function	Calcium-activated, phospholipid- and diacylglycerol (DAG)- dependent serine/threonine-protein kinase involved in various cellular processes such as regulation of the B-cell receptor (BCR) signalosome, oxidative stress-induced apoptosis, androgen receptor-dependent transcription regulation, insulin signaling and endothelial cells proliferation. Plays a key role in B-cell activation by regulating BCR- induced NF-kappa-B activation. Mediates the activation of the canonical NF-kappa-B pathway (NFKB1) by direct phosphorylation of CARD11/CARMA1 at 'Ser-559', 'Ser-644' and 'Ser-652'. Phosphorylation induces CARD11/CARMA1 association with lipid rafts and recruitment of the BCL10-MALT1 complex as well as MAP3K7/TAK1, which then activates IKK complex, resulting in nuclear translocation and activation of NFKB1. Plays a direct role in the negative feedback regulation of the BCR signaling, by down-modulating BTK function via direct phosphorylation of BTK at 'Ser-180', which results in the alteration of BTK plasma membrane localization and in turn inhibition of BTK activity (PubMed:11598012). Involved in apoptosis following oxidative damage: in case of oxidative conditions, specifically phosphorylates 'Ser-36' of isoform p66Shc of SHC1, leading to mitochondrial accumulation of p66Shc, where p66Shc acts as a reactive oxygen species producer. Acts as a coactivator of androgen receptor (AR)-dependent transcription, by being recruited to AR target genes and specifically mediating phosphorylation of 'Thr-6' of histone H3 (H3T6ph), a specific tag for epigenetic transcriptional activation that prevents demethylation of histone H3 'Lys-4' (H3K4me) by LSD1/KDM1A (PubMed:20228790). In insulin signaling, may function downstream of IRS1 in muscle cells and mediate insulin-dependent DNA synthesis through the RAF1-MAPK/ERK signaling cascade. Participates in the regulation of glucose transport in adipocytes by negatively modulating the insulin-stimulated translocation of the glucose transporter SLC2A4/GLUT4. Phosphorylates SLC2A1/GLUT1, promoting glucose uptake by SLC2A1/GLUT1 (PubMed:25982116). Under high glucose in pancreatic beta-cells, is probably involved in the inhibition of the insulin gene transcription, via regulation of MYC expression. In endothelial cells, activation of PRKCB induces increased phosphorylation of RB1, increased VEGFA-induced cell proliferation, and inhibits PI3K/AKT-dependent nitric oxide synthase (NOS3/eNOS) regulation by insulin, which causes endothelial dysfunction. Also involved in triglyceride homeostasis (By similarity). Phosphorylates ATF2 which promotes cooperation between ATF2 and JUN, activating transcription (PubMed:19176525). Phosphorylates KLHL3 in response to angiotensin II signaling, decreasing the interaction between KLHL3 and WNK4 (PubMed:25313067). Phosphorylates and activates LRRK1, which phosphorylates RAB proteins involved in intracellular trafficking (PubMed:36040231). Acts as a regulator of dopamine signaling by mediating constitutive phosphorylation of dopamine receptors DRD1 and DRD2, inhibiting G protein-coupled receptor signaling (PubMed:20969574).
Cellular Location	Cytoplasm. Nucleus. Membrane; Peripheral membrane protein

Background

Protein kinase C beta type is an enzyme that in humans is encoded by the PRKCB gene. It is a member of the protein kinase C (PKC) gene family. 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. This protein kinase has been reported to be involved in many different cellular functions, such as B cell activation, apoptosis induction, endothelial cell proliferation, and intestinal sugar absorption. It has been found that PRKCB activated by oxidative conditions in the cell, induces phosphorylation of p66(SHC) and triggers mitochondrial accumulation of the protein after it is recognized by the prolyl isomerase PIN1.

Images



Anti- PKC beta 1 Picoband antibody, ABO12010, Western blottingAll lanes: Anti PKC beta 1 (ABO12010) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Mouse Brain Tissue Lysate at 50ugLane 3: COLO320 Whole Cell Lysate at 40ugPredicted bind size: 77KDObserved bind size: 77KD

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.