abcam

Product datasheet

Anti-PKC (phospho S729) antibody [EPR1483(N)] ab181119

Recombinant RabMAb

3 Abreviews 5 Images

Overview

Product name	Anti-PKC (phospho S729) antibody [EPR1483(N)]
Description	Rabbit monoclonal [EPR1483(N)] to PKC (phospho S729)
Host species	Rabbit
Specificity	This antibody cross-reacts with several isoforms of PKC.
Tested applications	**Suitable for:** Dot blot, WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	Lysate of SH-SY5Y cells treated with Okadaic Acid and Calyculin A.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Tissue culture supernatant
Clonality	Monoclonal

Clone number	EPR1483(N)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab181119 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Dot blot		1/1000.
WB	★★★★☆ (3)	1/1000 - 1/2000. Predicted molecular weight: 84 kDa.

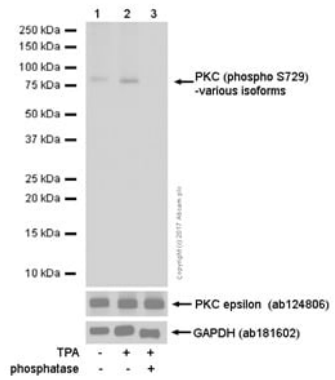
Target

Function

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 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.
Sequence similarities	Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. PKC subfamily. Contains 1 AGC-kinase C-terminal domain. Contains 1 C2 domain. Contains 2 phorbol-ester/DAG-type zinc fingers. Contains 1 protein kinase domain.
Cellular localization	Cytoplasm. Cell membrane. Mitochondrion membrane. Nucleus.

Images



Western blot - Anti-PKC (phospho S729) antibody [EPR1483(N)] - Carrier Free (ab181119)

All lanes : Anti-PKC (phospho S729) antibody [EPR1483(N)] (ab181119) at 1/2000 dilution

Lane 1 : THP-1 (human monocytic leukemia cell line) whole cell lysate.
Lane 2 : THP-1 whole cell lysate treated with Phorbol-12-myristate-13-acetate at 100ng/ml for 24 hours.
Lane 3 : THP-1 whole cell lysate treated with Phorbol-12-myristate-13-acetate at 100ng/ml for 24 hours. Then the membrane was incubated with phosphatase.

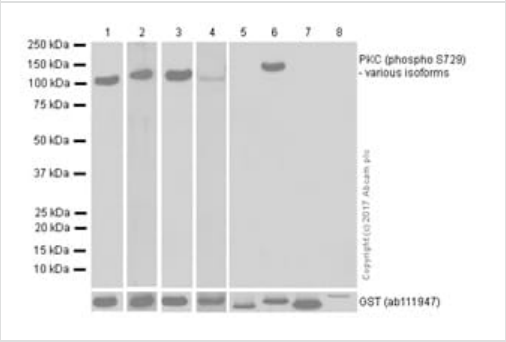
Lysates/proteins at 15 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 84 kDa
Additional bands at: 84 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 3 seconds

Blocking/dilution buffer: 5% NFDM/TSBT



Western blot - Anti-PKC (phospho S729) antibody [EPR1483(N)] - Carrier Free (ab181119)

All lanes : Anti-PKC (phospho S729) antibody [EPR1483(N)] (ab181119) at 1/1000 dilution

Lane 1 : Active human PKC alpha full length protein (**ab55672**) contains aa1-672 with GST-tag at 0.02 µg
Lane 2 : Active human PKC beta 1 full length protein (**ab60840**) contains aa1-671 with GST-tag at 0.06 µg
Lane 3 : Active human PKC beta 2 full length protein (**ab60841**) contains aa1-673 with GST-tag at 0.02 µg
Lane 4 : Active human PKC delta full length protein (**ab60844**) contains aa1-676 with GST-tag at 0.06 µg
Lane 5 : Active human PKC eta full length protein (**ab60849**) contains aa1-683 with GST-tag at 0.02 µg
Lane 6 : Active human PKC epsilon full length protein (**ab60847**) contains aa1-737 with GST-tag at 0.02 µg
Lane 7 : Active human PKC theta full length protein (**ab56641**) contains aa1-706 with GST-tag at 0.02 µg
Lane 8 : Active human PKC mu full length protein (**ab60873**) contains aa1-912 with GST-tag at 0.02 µg

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

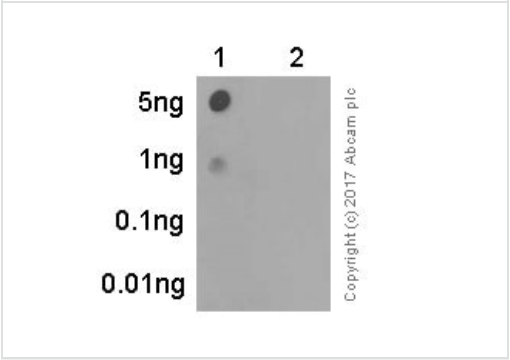
Predicted band size: 84 kDa
Additional bands at: 100-150 kDa. We are unsure as to the identity of these extra bands.

Blocking/dilution buffer: 5% NFDM/TBST

Exposure time:

Lanes 1, 3, 5-8: 10 seconds

Lanes 2, 4: 3 minutes

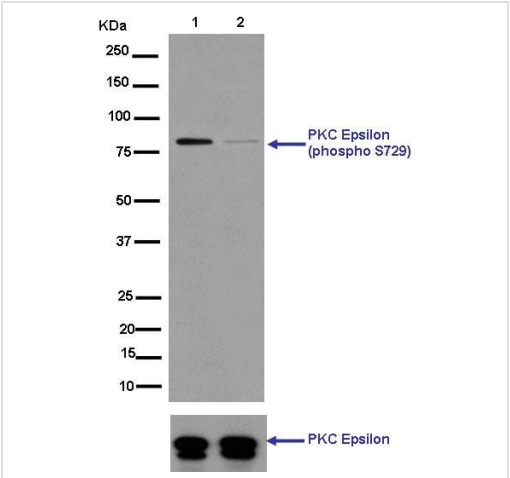


Dot Blot - Anti-PKC (phospho S729) antibody [EPR1483(N)] - Carrier Free (ab181119)

Dot blot analysis of PKC epsilon (pS729) phospho peptide (Lane 1), PKC epsilon non-phospho peptide (Lane 2), labelling PKC (pS729) with purified ab181119 at a dilution of 1/1000. **ab97051** (Peroxidase conjugated goat anti-rabbit IgG (H+L)) was used as the secondary antibody at a dilution of 1/100000.

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.



Western blot - Anti-PKC (phospho S729) antibody [EPR1483(N)] - Carrier Free (ab181119)

All lanes : Anti-PKC (phospho S729) antibody [EPR1483(N)] (ab181119) at 1/2000 dilution

Lane 1 : Lysate of SH-SY5Y cells treated with Okadaic Acid and Calyculin A
Lane 2 : Lysate of SH-SY5Y cells

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated antibody at 1/1000 dilution

Predicted band size: 84 kDa

Anti-PKC (phospho S729) antibody [EPR1483(N)] (ab181119)

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