

Product datasheet

Anti-PKC antibody [EPR16791] α b179523

Recombinant RabMAb

★★★★★ 1 Abreviews 2 References 9 Images

Overview

Product name	Anti-PKC antibody [EPR16791]
Description	Rabbit monoclonal [EPR16791] to PKC
Host species	Rabbit
Tested applications	Suitable for: WB, IP
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Active human PKC alpha, PKC beta 1, PKC beta 2, PKC gamma, PKC delta, PKC eta, PKC epsilon and PKC theta full length proteins; Human fetal heart and skin lysates; Mouse lung, heart, kidney and spleen lysates; MCF7 and PC-3 whole cell lysates; Rat heart and spleen lysates. IP: Mouse lung whole cell lysate.

General notes

Recombinant PKC isoforms were tested for reactivity to **ab179521** by western blot, and are marked as positive (+) or negative (-).

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, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR16791
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab179523 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
WB	★★★★★ (1)	1/2000. Detects a band of approximately 78, 40 kDa (predicted molecular weight: 78 kDa).
IP		1/50.

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.

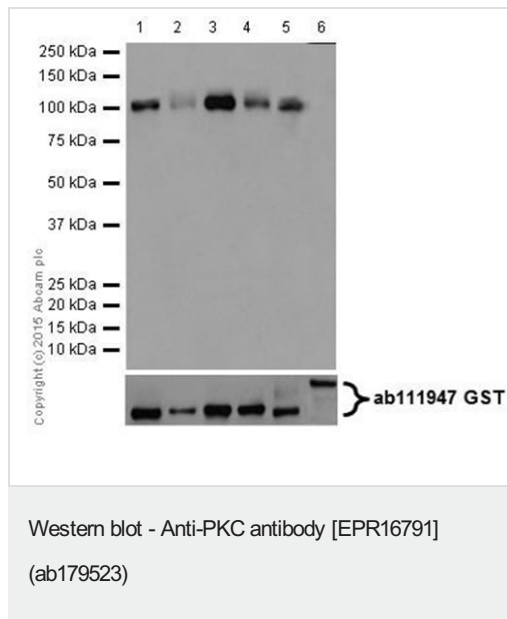
Sequence similarities

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



All lanes : Anti-PKC antibody [EPR16791] (ab179523) at 1/2000 dilution

Lane 1 : Active human PKC alpha full length protein

Lane 2 : Active human PKC beta 1 full length protein

Lane 3 : Active human PKC beta 2 full length protein

Lane 4 : Active human PKC gamma full length protein

Lane 5 : Active human PKC delta full length protein

Lane 6 : Active human PKC mu full length protein

Lysates/proteins at 0.02 µg per lane.

Secondary

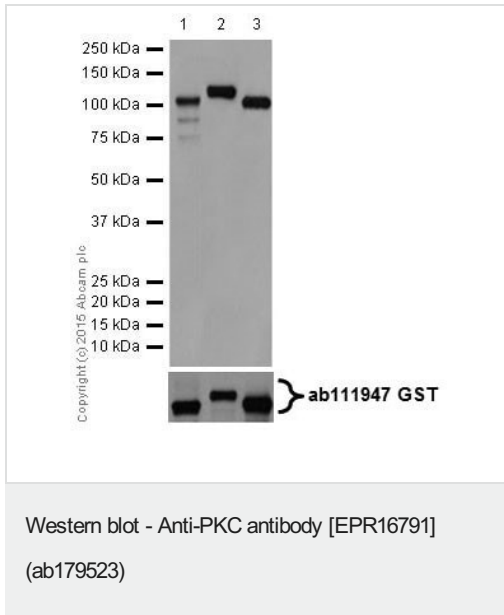
All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/50000 dilution

Predicted band size: 78 kDa

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDm/TBST.

Active human PKC alpha full length protein (Catalog#[ab55672](#)) contains aa1-672 with GST-tag; Active human PKC beta 1 full length protein (Catalog#[ab60840](#)) contains aa1-671 with GST-tag; Active human PKC beta 2 full length protein (Catalog#[ab60841](#)) contains aa1-673 with GST-tag; Active human PKC gamma full length protein (Catalog#[ab60842](#)) contains aa1-677 with GST-tag; Active human PKC delta full length protein (Catalog#[ab60844](#)) contains aa1-676 with GST-tag; Active human PKC mu full length protein (Catalog#[ab60873](#)) contains aa1-912 with GST-tag.



All lanes : Anti-PKC antibody [EPR16791] (ab179523) at 1/2000 dilution

Lane 1 : Active human PKC eta full length protein

Lane 2 : Active human PKC epsilon full length protein

Lane 3 : Active human PKC theta full length protein

Lysates/proteins at 0.02 µg per lane.

Secondary

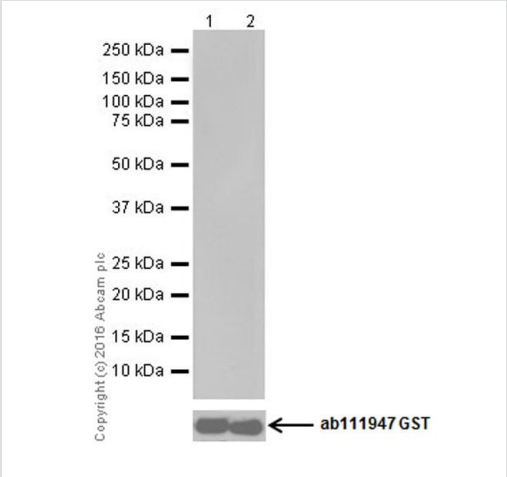
All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/50000 dilution

Predicted band size: 78 kDa

Exposure time: 5 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.

Active human PKC eta full length protein (Catalog#[ab60849](#)) contains aa1-683 with GST-tag; Active human PKC epsilon full length protein (Catalog#[ab60847](#)) contains aa1-737 with GST-tag; Active human PKC theta full length protein (Catalog#[ab56641](#)) contains aa1-706 with GST-tag.



Western blot - Anti-PKC antibody [EPR16791]
(ab179523)

All lanes : Anti-PKC antibody [EPR16791] (ab179523) at 1/1000 dilution

Lane 1 : Active human PKC zeta full length protein

Lane 2 : Active human PKC iota full length protein

Lysates/proteins at 0.02 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/100000 dilution

Predicted band size: 78 kDa

Exposure time: 3 minutes

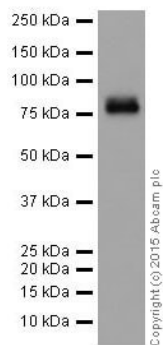
Blocking/Dilution buffer: 5% NFDm/TBST.

Active human PKC zeta full length protein (Catalog# [ab60848](#)) contains aa1-592 with GST-tag; Active human PKC iota full length protein (Catalog#[ab60850](#)) contains aa1-596 with GST-tag.

PKC alpha	PKC beta I	PKC beta II	PKC gamma	PKC delta	PKC epsilon	PKC eta	PKC mu	PKC theta	PKC iota	PKC zeta
+	+	+	+	+	+	+	-	+	-	-

Western blot - Anti-PKC antibody [EPR16791]
(ab179523)

Recombinant PKC isoforms were tested for reactivity by western blot, and are marked as positive (+) or negative (-).



Western blot - Anti-PKC antibody [EPR16791]
(ab179523)

Anti-PKC antibody [EPR16791] (ab179523) at 1/2000 dilution +
Human fetal heart tissue lysate at 1/10 dilution

Secondary

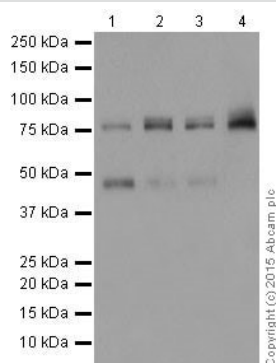
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at
1/50000 dilution

Predicted band size: 78 kDa

Observed band size: 78 kDa

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDm/TBST.



Western blot - Anti-PKC antibody [EPR16791]
(ab179523)

All lanes : Anti-PKC antibody [EPR16791] (ab179523) at 1/10000
dilution

Lane 1 : Human fetal skin tissue lysate

Lane 2 : MCF7 (Human breast adenocarcinoma cell line) whole
cell lysate

Lane 3 : PC-3 (Human prostate adenocarcinoma cell line) whole
cell lysate

Lane 4 : Mouse lung tissue lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/50000
dilution

Predicted band size: 78 kDa

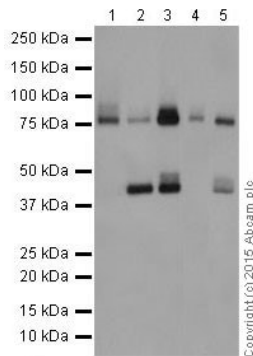
Observed band size: 40,78 kDa

Exposure time: 10 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.

The antibody recognizes the full length (~78KD) and the catalytic domain (~40KD) of PKCs (Gerald P and King GL, 2010. Circ Res. 106, 1319-1331.

Newton AC, 1995. J. Biol. Chem. 270, 28495-28498).



Western blot - Anti-PKC antibody [EPR16791]
(ab179523)

All lanes : Anti-PKC antibody [EPR16791] (ab179523) at 1/2000 dilution

Lane 1 : Mouse heart lysate

Lane 2 : Mouse kidney lysate

Lane 3 : Mouse spleen lysate

Lane 4 : Rat heart lysate

Lane 5 : Rat spleen lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/50000 dilution

Predicted band size: 78 kDa

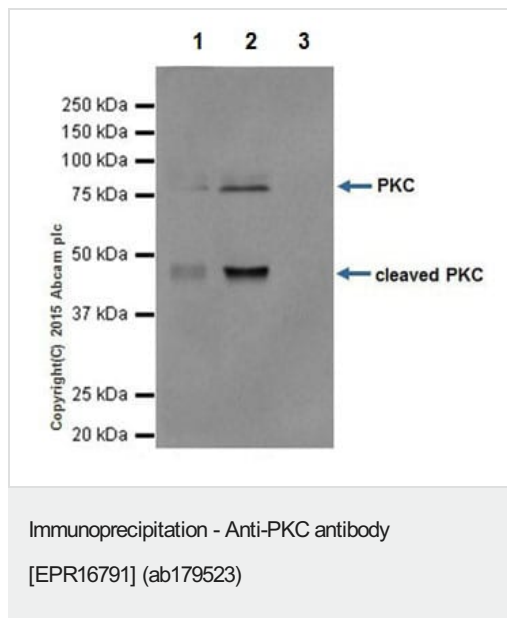
Observed band size: 40,78 kDa

Exposure time: 15 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.

The antibody recognizes the full length (~78KD) and the catalytic domain (~40KD) of PKCs (Gerald P and King GL, 2010. Circ Res. 106, 1319-1331.

Newton AC, 1995. J. Biol. Chem. 270, 28495-28498).



PKC was immunoprecipitated from 1 mg of Mouse lung whole cell lysate with ab179523 at 1/50 dilution. Western blot was performed from the immunoprecipitate using ab179523 at 1/1000 dilution.

Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Lane 1: Mouse lung whole cell lysate, 10µg (Input).

Lane 2: ab179523 IP in Mouse lung whole cell lysate.





Lane 3: Rabbit IgG, monoclonal[EPR25A]-Isotype

Control (**ab172730**) instead of ab179523 in Mouse lung whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 30 seconds.

Why choose a recombinant antibody?

 <p>Research with confidence Consistent and reproducible results</p>	 <p>Long-term and scalable supply Recombinant technology</p>
 <p>Success from the first experiment Confirmed specificity</p>	 <p>Ethical standards compliant Animal-free production</p>

Anti-PKC antibody [EPR16791] (ab179523)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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