

**PKC beta1/2 Antibody (Center)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7016a**

**Specification**

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**PKC beta1/2 Antibody (Center) - Product Information**

Application	WB, IHC-P,E
Primary Accession	<a href="#">P05771</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	76869
Antigen Region	303-334

**PKC beta1/2 Antibody (Center) - Additional Information**

**Gene ID** 5579

**Other Names**

Protein kinase C beta type, PKC-B, PKC-beta, PRKCB, PKCB, PRKCB1

**Target/Specificity**

This PKC beta1/2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 303-334 amino acids from the Central region of human PKC beta1/2.

**Dilution**

WB~~1:2000

IHC-P~~1:25

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

PKC beta1/2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**PKC beta1/2 Antibody (Center) - 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](#)).

#### **Cellular Location**

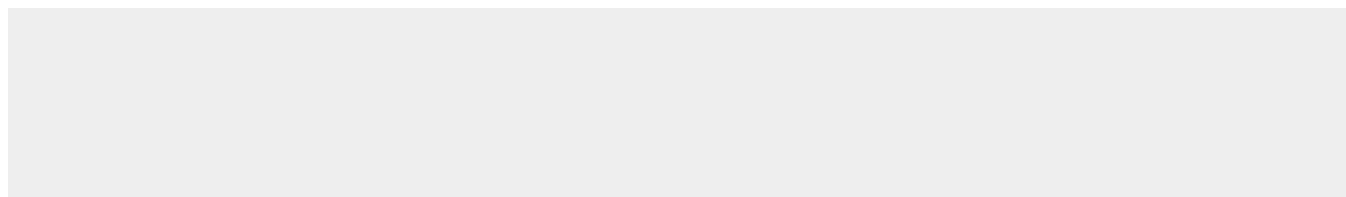
Cytoplasm. Nucleus. Membrane; Peripheral membrane protein

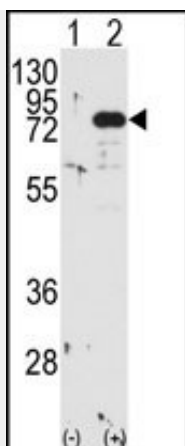
#### **PKC beta1/2 Antibody (Center) - Protocols**

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

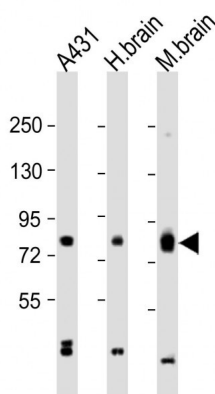
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **PKC beta1/2 Antibody (Center) - Images**

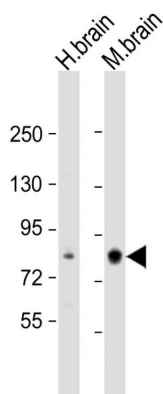




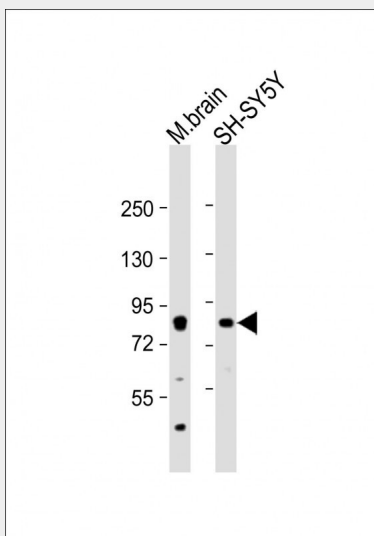
Western blot analysis of PRKCB (arrow) using PKC beta1/2 Antibody (Center) (Cat.#AP7016a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the PRKCB gene (Lane 2) (Origene Technologies).



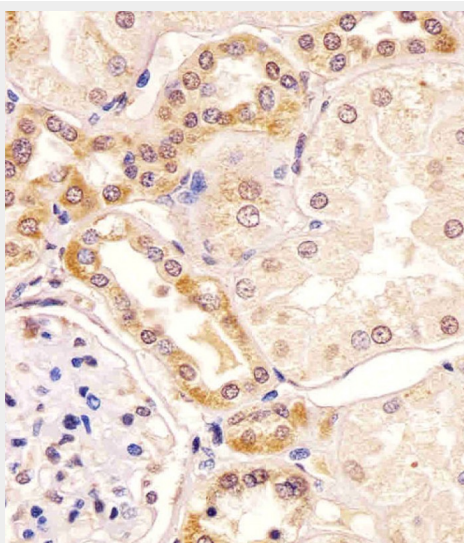
All lanes : Anti-PKC beta1/2 Antibody (Center) at 1:2000 dilution Lane 1: A431 whole cell lysate Lane 2: human brain lysate Lane 3: mouse brain lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 77 kDa Blocking/Dilution buffer: 5% NFDm/TBST.



All lanes : Anti-PKC beta1/2 Antibody (Center) at 1:2000 dilution Lane 1: human brain lysate Lane 2: mouse brain lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 77 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-PKC beta1/2 Antibody (Center) at 1:2000 dilution Lane 1: mouse brain lysate Lane 2: SH-SY5Y whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 77 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



AP7016a staining PKC beta1/2 in human kidney tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hour at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

#### **PKC beta1/2 Antibody (Center) - 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 beta is one of the PKC family members. 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. Studies in mice also suggest that this kinase may also regulate neuronal functions and correlate fear-induced conflict behavior after stress. Alternatively spliced transcript variants encoding distinct isoforms have been reported. Isoform 1 uses an alternate exon at the 3' end compared to isoform 2, which includes a part of the coding region. The resulting isoform 1 has a distinct and shorter C-terminus, as compared to isoform 2.

#### **PKC beta1/2 Antibody (Center) - References**

- Chen, D., et al., J. Biol. Chem. 279(6):4829-4839 (2004).  
Hug, B.A., et al., J. Biol. Chem. 279(2):825-830 (2004).  
Wu, H., et al., Biochem. Biophys. Res. Commun. 311(4):948-953 (2003).  
Becker, K.P., et al., J. Biol. Chem. 278(52):52747-52754 (2003).  
Birikh, K.R., et al., Proc. Natl. Acad. Sci. U.S.A. 100(1):283-288 (2003).