#12206 Store at -20°C

PKCθ (P632) Antibody

☑ 100 µl
(10 westen blots)

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New 10/12

For Research Use Only. Not For Use In Diagnostic Procedures.

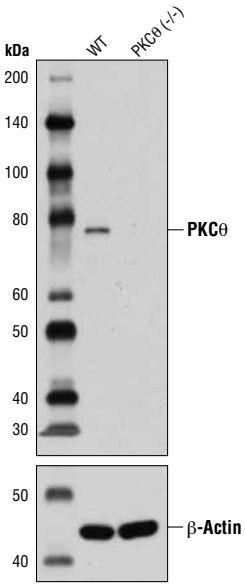
Entrez-Gene ID #5588
Swiss-Prot Acc. #Q04759

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, (R, Mk, B, Dg)	78 kDa	Rabbit**

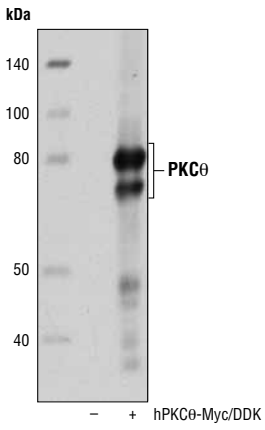
Background: Activation of protein kinase C (PKC) is one of the earliest events in a cascade that controls a variety of cellular responses, including secretion, gene expression, proliferation, and muscle contraction (1,2). PKC isoforms belong to three groups based on calcium dependency and activators. Classical PKCs are calcium-dependent via their C2 domains and are activated by phosphatidylserine (PS), diacylglycerol (DAG), and phorbol esters (TPA, PMA) through their cysteine-rich C1 domains. Both novel and atypical PKCs are calcium-independent, but only novel PKCs are activated by PS, DAG, and phorbol esters (3-5). Members of these three PKC groups contain a pseudo-substrate or autoinhibitory domain that binds to substrate-binding sites in the catalytic domain to prevent activation in the absence of cofactors or activators. Control of PKC activity is regulated through three distinct phosphorylation events. Phosphorylation occurs *in vivo* at Thr500 in the activation loop, at Thr641 through autophosphorylation, and at the carboxy-terminal hydrophobic site Ser660 (2). Atypical PKC isoforms lack hydrophobic region phosphorylation, which correlates with the presence of glutamic acid rather than the serine or threonine residues found in more typical PKC isoforms. The enzyme PDK1 or a close relative is responsible for PKC activation. A recent addition to the PKC superfamily is PKCµ (PKD), which is regulated by DAG and TPA through its C1 domain. PKD is distinguished by the presence of a PH domain and by its unique substrate recognition and Golgi localization (6). PKC-related kinases (PRK) lack the C1 domain and do not respond to DAG or phorbol esters. Phosphatidylinositol lipids activate PRKs, and small Rho-family GTPases bind to the homology region 1 (HR1) to regulate PRK kinase activity (7).

Specificity/Sensitivity: PKCθ (P632) Antibody recognizes endogenous levels of total PKCθ protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro632 of human PKCθ protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from wild-type and PKCθ (-/-) mouse splenocytes using PKCθ (P632) Antibody (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower). Extracts from wild-type and PKCθ (-/-) mouse splenocytes were kindly provided by Dr. Morgan Huse (Memorial Sloan-Kettering Cancer Center).



Western blot analysis of extracts from 293T cells, mock transfected (-) or transfected with a construct expressing Myc/DDK-tagged full-length human PKCθ (hPKCθ-Myc/DDK; +), using PKCθ (P632) Antibody.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

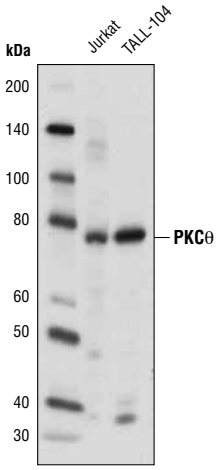
Western blotting	1:1000
Immunoprecipitation	1:50

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

Background References:

(1) Nishizuka, Y. (1984) *Nature* 308, 693-698.
(2) Keranen, L.M. et al. (1995) *Curr. Biol.* 5, 1394-1403.
(3) Mellor, H. and Parker, P.J. (1998) *Biochem J.* 332 (Pt 2), 281-292.
(4) Ron, D. and Kazanietz, M.G. (1999) *FASEB J.* 13, 1658-1676.
(5) Moscat, J. and Diaz-Meco, M.T. (2000) *EMBO Rep.* 1, 399-403.
(6) Baron, C.L. and Malhotra, V. (2002) *Science* 295, 325-328.
(7) Flynn, P. et al. (2000) *J. Biol. Chem.* 275, 11064-11070.



Western blot analysis of extracts from Jurkat and TALL-104 cells using PKCθ (P632) Antibody.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.