

# p-PKC $\delta$ (Thr 507): sc-11770

## BACKGROUND

Members of the protein kinase C (PKC) family play a key regulatory role in a variety of cellular functions, including cell growth and differentiation, gene expression, hormone secretion and membrane function. PKCs were originally identified as serine/threonine protein kinases whose activity was dependent on calcium and phospholipids. Diacylglycerols (DAG) and tumor promoting phorbol esters bind to and activate PKC. PKCs can be subdivided into at least two major classes, including conventional (c) PKC isoforms ( $\alpha$ ,  $\beta$ I,  $\beta$ II and  $\gamma$ ) and novel (n) PKC isoforms ( $\delta$ ,  $\epsilon$ ,  $\zeta$ ,  $\eta$  and  $\theta$ ). PKC isoforms can be activated through tyrosine phosphorylation and catalytically activated upon treatment with  $H_2O_2$ . The Tyr 155, 525, 523 and 565 residues in the catalytic domain are crucial for activation of these enzymes. The residue Ser 643 appears to be an autophosphorylation site.

## CHROMOSOMAL LOCATION

Genetic locus: PRKCD (human) mapping to 3p21.1; Prkcd (mouse) mapping to 14 B.

## SOURCE

p-PKC  $\delta$  (Thr 507) is available as either goat (sc-11770) or rabbit (sc-11770-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Thr 507 phosphorylated PKC  $\delta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11770 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-PKC  $\delta$  (Thr 507) is recommended for detection of Thr 507 phosphorylated PKC  $\delta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PKC  $\delta$  siRNA (h): sc-36253, PKC  $\delta$  siRNA (m): sc-36246, PKC  $\delta$  shRNA Plasmid (h): sc-36253-SH, PKC  $\delta$  shRNA Plasmid (m): sc-36246-SH, PKC  $\delta$  shRNA (h) Lentiviral Particles: sc-36253-V and PKC  $\delta$  shRNA (m) Lentiviral Particles: sc-36246-V.

Molecular Weight of p-PKC  $\delta$ : 78 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or MCF7 whole cell lysate: sc-2206.

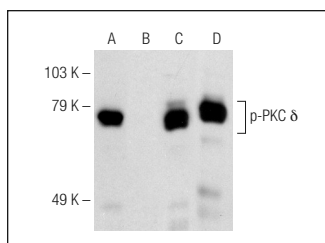
## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## DATA



Western blot analysis of PKC  $\delta$  phosphorylation in untreated (**A,C**) and lambda protein phosphatase (sc-200312A) treated (**B,D**) RAW 264.7 whole cell lysates. Antibodies tested include p-PKC  $\delta$  (Thr 507)-R: sc-11770-R (**A,B**) and PKC  $\delta$  (C-20): sc-937 (**C,D**).

## SELECT PRODUCT CITATIONS

- Marchisio, M., et al. 2005. Erythroid cell differentiation is characterized by nuclear matrix localization and phosphorylation of protein kinases C (PKC)  $\alpha$ ,  $\delta$ , and  $\zeta$ . *J. Cell. Physiol.* 205: 32-36.
- Hung, J.H., et al. 2008. FTY720 induces apoptosis in hepatocellular carcinoma cells through activation of protein kinase C  $\delta$  signaling. *Cancer Res.* 68: 1204-1212.
- Miscia, S., et al. 2009.  $\beta$ (1-42) stimulated T cells express P-PKC  $\delta$  and P-PKC  $\zeta$  in Alzheimer disease. *Neurobiol. Aging* 30: 394-406.
- Cataldi, A., et al. 2009. Ionizing radiation induces apoptotic signal through protein kinase C  $\delta$  ( $\delta$ ) and survival signal through Akt and cyclic-nucleotide response element-binding protein (CREB) in Jurkat T cells. *Biol. Bull.* 217: 202-212.
- Leonarduzzi, G., et al. 2010. Molecular signaling operated by a diet-compatible mixture of oxysterols in up-regulating CD36 receptor in CD68 positive cells. *Mol. Nutr. Food Res.* 54: S31-S41.
- di Giacomo, V., et al. 2010. PKC- $\delta$  signalling pathway is involved in H9c2 cells differentiation. *Differentiation* 80: 204-212.
- De Marco, P., et al. 2012. Insulin-like growth factor-I regulates GPER expression and function in cancer cells. *Oncogene* 2: 678-688.
- Shen, Y.J., et al. 2012. Exercise preconditioning provides early cardioprotection against exhaustive exercise in rats: potential involvement of protein kinase C  $\delta$  translocation. *Mol. Cell. Biochem.* 368: 89-102.
- De Marco, P., et al. 2014. GPER1 is regulated by Insulin in cancer cells and cancer-associated fibroblasts. *Endocr. Relat. Cancer* 21: 739-753.



Try **p-PKC  $\delta$  (F-7): sc-365969**, our highly recommended monoclonal alternative to p-PKC  $\delta$  (Thr 507).