

p-PKC δ (Tyr 311)-R: sc-18364-R

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 (α , β I, β II and γ) and novel (n) PKC isoforms (δ , ϵ , ζ , η and θ). 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.

REFERENCES

1. Takai, Y., et al. 1979. Calcium-dependent activation of a multifunctional protein kinase by membrane phospholipids. *J. Biol. Chem.* 254: 3692-3695.
2. Castagna, M., et al. 1982. Direct activation of calcium-activated, phospholipid-dependent protein kinase by tumor-promoting phorbol esters. *J. Biol. Chem.* 257: 7847-7851.
3. Kikkawa, U., et al. 1983. Protein kinase C as a possible receptor of tumor promoting phorbol esters. *J. Biol. Chem.* 258: 11442-11445.
4. Nishizuka, Y. 1984. The role of protein kinase C in cell surface signal transduction and tumour promotion. *Nature* 308: 693-698.
5. Nishizuka, Y. 1984. Turnover of inositol phospholipids and signal transduction. *Science* 225: 1365-1370.
6. Osada, S., et al. 1992. A new member of the protein kinase C family, nPKC θ , predominantly expressed in skeletal muscle. *Mol. Cell. Biol.* 12: 3930-3938.

CHROMOSOMAL LOCATION

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

SOURCE

p-PKC δ (Tyr 311)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 311 phosphorylated PKC δ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-18364 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

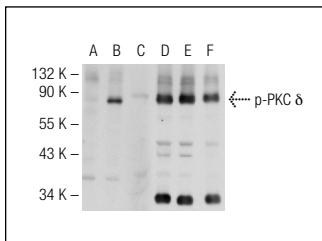
p-PKC δ (Tyr 311)-R is recommended for detection of Tyr 311 phosphorylated PKC δ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting 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 δ siRNA (h): sc-36253, PKC δ siRNA (m): sc-36246, PKC δ shRNA Plasmid (h): sc-36253-SH, PKC δ shRNA Plasmid (m): sc-36246-SH, PKC δ shRNA (h) Lentiviral Particles: sc-36253-V and PKC δ shRNA (m) Lentiviral Particles: sc-36246-V.

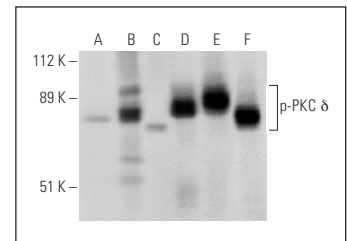
Molecular Weight of p-PKC δ : 78 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa + PMA cell lysate: sc-2258 or RAW 264.7 whole cell lysate: sc-2211.

DATA



p-PKC δ (Tyr 311)-R: sc-18364. Western blot analysis of PKC δ phosphorylation in untreated (A, D), PMA treated (B, E) and PMA and lambda protein phosphatase (sc-200312A) treated (C, F) HeLa whole cell lysates. Antibodies tested include p-PKC δ (Tyr 311)-R: sc-18364-R (A, B, C) and PKC δ (C-20): sc-937 (D, E, F).



Western blot analysis of PKC δ phosphorylation in untreated (A, D), Ser/Thr induction cocktail (sc-362324) treated (B, E) and Ser/Thr induction cocktail (sc-362324) and lambda protein phosphatase (sc-200312A) treated (C, F) A-431 whole cell lysates. Antibodies tested include p-PKC δ (Tyr 311)-R: sc-18364-R (A, B, C) and PKC δ (C-20): sc-937 (D, E, F).

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **p-PKC δ (A-8): sc-377560**, our highly recommended monoclonal alternatives to p-PKC δ (Tyr 311).