

p-PKC δ (Tyr 155)-R: sc-23770-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.

CHROMOSOMAL LOCATION

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

SOURCE

p-PKC δ (Tyr 155)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 155 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-23770 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.

RESEARCH USE

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

APPLICATIONS

p-PKC δ (Tyr 155)-R is recommended for detection of Tyr 155 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).

p-PKC δ (Tyr 155)-R is also recommended for detection of correspondingly phosphorylated PKC δ in additional species, including equine, canine and avian.

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.

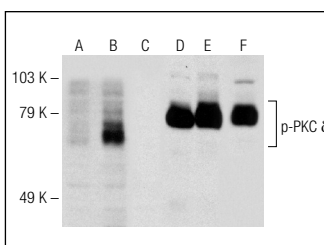
Molecular Weight of p-PKC δ : 78 kDa.

Positive Controls: RAW 264.7 + LPS/PMA cell lysate: sc-2212, HeLa-PMA cell lysate: sc-2258 or RAW 264.7 whole cell lysate: sc-2211.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Western blot analysis of PKC δ phosphorylation in untreated (A, D), serum starved and serum treated (B, E) and serum starved, serum treated and lambda protein phosphatase (sc-200312A) treated (C, F) HeLa whole cell lysates. Antibodies tested include p-PKC δ (Tyr 155)-R: sc-23770-R (A, B, C) and PKC δ (C-20): sc-937 (D, E, F).

SELECT PRODUCT CITATIONS

1. Campos, M.R., et al. 2009. Differential kinase requirement for enhancement of Fc γ R-mediated phagocytosis in alveolar macrophages by leukotriene B4 vs. D4. *Mol. Immunol.* 46: 1204-1211.