

p-PKC δ (Ser 643): sc-22266

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 (mouse) mapping to 14 B.

SOURCE

p-PKC δ (Ser 643) is available as either goat (sc-22266) or rabbit (sc-22266-R) polyclonal antibody raised against a short amino acid sequence containing Ser 643 phosphorylated PKC δ of mouse 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-22266 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 (Ser 643) is recommended for detection of Ser 643 phosphorylated PKC δ of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-36246, PKC δ shRNA Plasmid (m): sc-36246-SH and PKC δ shRNA (m) Lentiviral Particles: sc-36246-V.

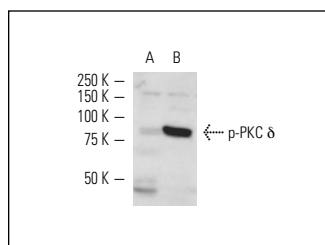
Molecular Weight of p-PKC δ : 78 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, NIH/3T3 + PMA cell lysate: sc-24748 or PMA-treated RAW 264.7 whole cell lysate.

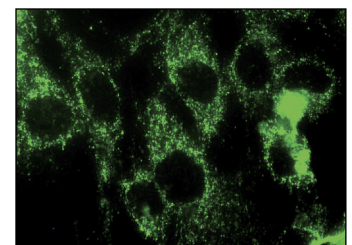
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-22266): use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000), for rabbit primary antibody (sc-22266-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunofluorescence: for goat primary antibody (sc-22266): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400), for rabbit primary antibody (sc-22266-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



p-PKC δ (Ser 643): sc-22266. Western blot analysis of PKC δ phosphorylation in untreated (A) and PMA-treated (B) RAW 264.7 whole cell lysates.



p-PKC δ (Ser 643)-R: sc-22266-R. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Dey, D., et al. 2005. Inhibition of insulin receptor gene expression and insulin signaling by fatty acid: interplay of PKC isoforms therein. *Cell. Physiol. Biochem.* 16: 217-228.
2. Brizuela, L., et al. 2007. Sphingosine-1-phosphate stimulates aldosterone secretion through a mechanism involving the PI3K/PKB and MEK/ERK 1/2 pathways. *J. Lipid Res.* 48: 2264-2274.