

p-PKC δ (Ser 645): sc-101777

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). Upon phosphorylation on Thr 507, PKC δ is activated, where it can inhibit the functionality of specific substrates, such as JAK2 and Stat3. PKC δ phosphorylates and associates with Stat3 on Ser 727 following induction by IL-6 to negatively regulate the DNA-binding and transcriptional activity of Stat3.

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.
7. Jain, N., et al. 1999. Protein kinase C δ associates with and phosphorylated Stat3 in an interleukin-6-dependent manner. *J. Biol. Chem.* 274: 24392-24400.

CHROMOSOMAL LOCATION

Genetic locus: PRKCD (human) mapping to 3p21.1.

SOURCE

p-PKC δ (Ser 645) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 645 of PKC of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 (Ser 645) is recommended for detection of Ser 645 phosphorylated PKC δ of 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

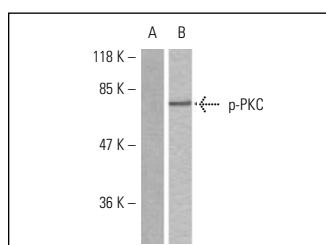
Molecular Weight of p-PKC δ : 77 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa-PMA cell lysate: sc-2258 or Jurkat + PMA cell lysate: sc-24718.

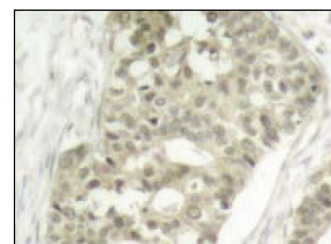
RECOMMENDED SECONDARY REAGENTS

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) and Western Blotting Luminol Reagent: sc-2048. 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Western blot analysis of phosphorylated PKC expression in MCF7 whole cell lysate (A,B). Blots were probed with p-PKC (Ser 645): sc-101777 preincubated with its cognate phosphorylated peptide (A) and p-PKC (Ser 645): sc-101777 (B).



p-PKC (Ser 645): sc-101777. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic staining.

RESEARCH USE

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

SELECT PRODUCT CITATIONS

1. Ronda, A.C., et al. 2010. Role of estrogen receptors, PKC and Src in ERK2 and p38 MAPK signaling triggered by 17 β -estradiol in skeletal muscle cells. *J. Steroid Biochem. Mol. Biol.* 122: 287-294.