SANTA CRUZ BIOTECHNOLOGY, INC.

p-PKC δ (A-8): sc-377560

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, βI, βII and γ) and novel (n) PKC isoforms (δ, ε, ω, 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-PKC δ (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 309-318 Tyr 311 of PKC δ of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377560 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-PKC δ (A-8) is recommended for detection of Tyr 311 phosphorylated PKC δ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

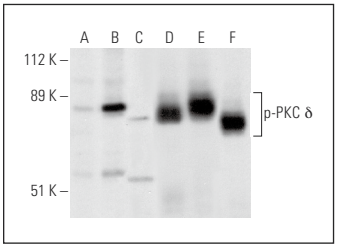
Suitable for use as control antibody for PKC δ siRNA (h): sc-36253, PKC δ siRNA (m): sc-36246, PKC δ shRNA Plasmid (h): sc-36253-SH, PKC δ shRNA Plasmid (m): sc-36246-SH, PKC δ shRNA (h) Lentiviral Particles: sc-36253-V and PKC δ shRNA (m) Lentiviral Particles: sc-36246-V.

Molecular Weight of p-PKC δ: 78 kDa.

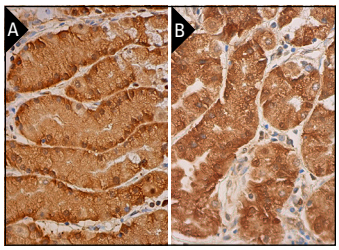
STORAGE

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

DATA



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 (A-8): sc-377560 (**A**,**B**,**C**) and PKC δ (C-20): sc-937 (**D**,**E**,**F**).



p-PKC δ (A-8): sc-377560. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower (**A**) and human upper (**B**) stomach tissue showing cytoplasmic and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Wu, S., et al. 2016. Herpes simplex virus 1 induces phosphorylation and reorganization of Lamin A/C through the γ134.5 protein that facilitates nuclear egress. J. Virol. 90: 10414-10422.
2. Spivak, A.M., et al. 2018. Synthetic ingenols maximize protein kinase C-induced HIV-1 latency reversal. Antimicrob. Agents Chemother. 62: e01361-18.
3. Loh, J.T., et al. 2019. Dok3-protein phosphatase 1 interaction attenuates Card9 signaling and neutrophil-dependent antifungal immunity. J. Clin. Invest. 129: 2717-2729.
4. Hwang, W.C., et al. 2020. Inhibition of phospholipase D2 augments histone deacetylase inhibitor-induced cell death in breast cancer cells. Biol. Res. 53: 34.
5. Karwi, Q.G., et al. 2020. Insulin directly stimulates mitochondrial glucose oxidation in the heart. Cardiovasc. Diabetol. 19: 207.
6. Tran, N.K.C., et al. 2023. Ginsenoside Re blocks Bay k-8644-induced neurotoxicity via attenuating mitochondrial dysfunction and PKCδ activation in the hippocampus of mice: involvement of antioxidant potential. Food Chem. Toxicol. 178: 113869.

RESEARCH USE

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

PROTOCOLS

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