SANTA CRUZ BIOTECHNOLOGY, INC.

p-PKC α (A-11): sc-377565

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: PRKCA (human) mapping to 17q24.2; Prkca (mouse) mapping to 11 E1.

SOURCE

p-PKC α (A-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 652-669 Ser 657 of PKC α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-PKC α (A-11) is available conjugated to agarose (sc-377565 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377565 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377565 PE), fluorescein (sc-377565 FITC), Alexa Fluor® 488 (sc-377565 AF488), Alexa Fluor® 546 (sc-377565 AF546), Alexa Fluor® 594 (sc-377565 AF594) or Alexa Fluor® 647 (sc-377565 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377565 AF680) or Alexa Fluor® 790 (sc-377565 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377565 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

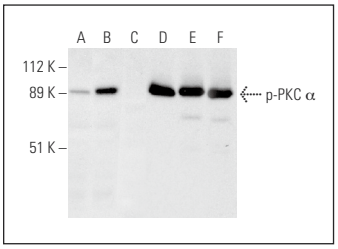
p-PKC α (A-11) is recommended for detection of Ser 657 phosphorylated PKC α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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).

p-PKC α (A-11) is also recommended for detection of correspondingly phosphorylated PKC α in additional species, including bovine.

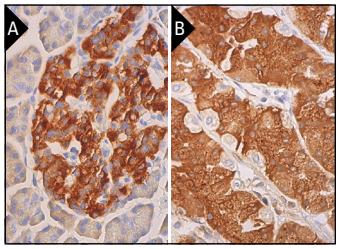
Suitable for use as control antibody for PKC α siRNA (h): sc-36243, PKC α siRNA (m): sc-36244, PKC α siRNA (r): sc-108089, PKC α shRNA Plasmid (h): sc-36243-SH, PKC α shRNA Plasmid (m): sc-36244-SH, PKC α shRNA Plasmid (r): sc-108089-SH, PKC α shRNA (h) Lentiviral Particles: sc-36243-V, PKC α shRNA (m) Lentiviral Particles: sc-36244-V and PKC α shRNA (r) Lentiviral Particles: sc-108089-V.

Molecular Weight of p-PKC α: 80 kDa.

DATA



Western blot analysis of PKC α phosphorylation in untreated (**A**,**D**),Ser/Thr Phosphorylation Induction Cocktail (sc-362324) treated (**B**,**E**) and Ser/Thr Phosphorylation Induction Cocktail (sc-362324) and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) Jurkat whole cell lysates. Antibodies tested include p-PKC α (A-11): sc-377565 (**A**,**B**,**C**) and PKC α (H-7): sc-8393 (**D**,**E**,**F**).



p-PKC α (A-11): sc-377565. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Dai, J., et al. 2017. Intracellular S100A9 promotes myeloid-derived suppressor cells during late sepsis. Front. Immunol. 8: 1565.
2. Jama, A., et al. 2019. Lipin1 is required for skeletal muscle development by regulating MEF2c and MyoD expression. J. Physiol. 597: 889-901.
3. Olgar, Y., et al. 2020. MitoTEMPO provides an antiarrhythmic effect in aged-rats through attenuation of mitochondrial reactive oxygen species. Exp. Gerontol. 136: 110961.
4. Agarwal, S., et al. 2021. Deiodinase-3 is a thyrostat to regulate podocyte homeostasis. EBioMedicine 72: 103617.
5. Li, J., et al. 2021. SOX9 is a critical regulator of TSPAN8-mediated metastasis in pancreatic cancer. Oncogene 40: 4884-4893.

RESEARCH USE

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