SANTA CRUZ BIOTECHNOLOGY, INC.

p-PKC α (Ser 657): sc-12356

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, 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-PKC α (Ser 657) is available as either goat (sc-12356) or rabbit (sc-12356-R) polyclonal affinity purified abtibody raised against a short amino acid sequence containing Ser 657 phosphorylated PKC α of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12356 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-PKC α (Ser 657) is recommended for detection of Ser 657 phosphorylated PKC α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-PKC α (Ser 657) is also recommended for detection of correspondingly phosphorylated PKC α in additional species, including equine, canine, bovine and avian.

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

Molecular Weight of p-PKC α: 80 kDa.

Positive Controls: HeLa + PMA nuclear extract: sc-2121 or NIH/3T3 whole cell lysate: sc-2210.

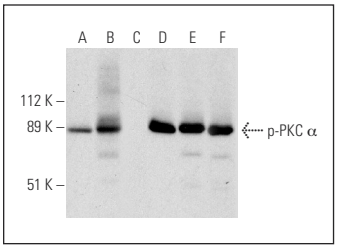
RESEARCH USE

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

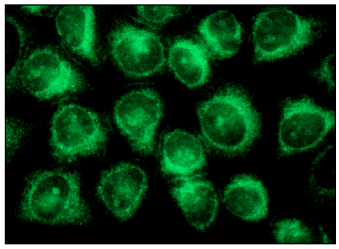
STORAGE

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 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 (Ser 657)-R: sc-12356-R (**A**,**B**,**C**) and PKC α (H-7): sc-8393 (**D**,**E**,**F**).



p-PKC α (Ser 657): sc-12356. Immunofluorescence staining of methanol-fixed PMA-treated HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Bandyopadhyay, G., et al. 2004. Chlorogenic acid inhibits Bcr-Abl tyrosine kinase and triggers p38 mitogen-activated protein kinase-dependent apoptosis in chronic myelogenous leukemic cells. Blood 104: 2514-2522.
2. Campos, M.R., et al. 2009. Differential kinase requirement for enhancement of Fc γR-mediated phagocytosis in alveolar macrophages by leukotriene B4 vs. D4. Mol. Immunol. 46: 1204-1211.
3. Fan, Q.W., et al. 2009. EGFR signals to mTOR through PKC and independently of Akt in glioma. Sci. Signal. 2: ra4.
4. Duncker, D.J., et al. 2009. Prevention of myofilament dysfunction by β-blocker therapy in postinfarct remodeling. Circ. Heart Fail. 2: 233-242.
5. de Diego-Otero, Y., et al. 2009. α-tocopherol protects against oxidative stress in the fragile X knockout mouse: an experimental therapeutic approach for the Fmr1 deficiency. Neuropsychopharmacology 34: 1011-1026.
6. Belibi, F., et al. 2011. mTORC1/2 and rapamycin in female Han:SPRD rats with polycystic kidney disease. Am. J. Physiol. Renal Physiol. 300: F236-F244.
7. Francis, H.L., et al. 2012. Histamine stimulates the proliferation of small and large cholangiocytes by activation of both IP3/Ca^{2+} and cAMP-dependent signaling mechanisms. Lab. Invest. 92: 282-294.