SANTA CRUZ BIOTECHNOLOGY, INC.

p-PKC ζ (Thr 410): sc-101778

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). 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. Phosphorylation of PKC ζ is induced by PDK1.

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: PRKCZ (human) mapping to 1p36.33; Prkcz (mouse) mapping to 4 E2.

SOURCE

p-PKC ζ (Thr 410) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Thr 410 phosphorylated PKC ζ of human origin.

PRODUCT

Each vial contains 100 µg 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 ζ (Thr 410) is recommended for detection of Thr 410 phosphorylated PKC ζ of mouse, rat and human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

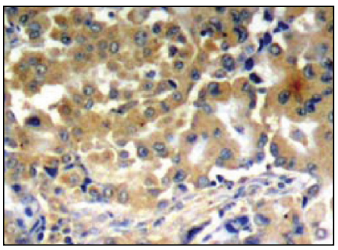
Suitable for use as control antibody for PKC ζ siRNA (h): sc-29451, PKC ζ siRNA (m): sc-36254, PKC ζ shRNA Plasmid (h): sc-29451-SH, PKC ζ shRNA Plasmid (m): sc-36254-SH, PKC ζ shRNA (h) Lentiviral Particles: sc-29451-V and PKC ζ shRNA (m) Lentiviral Particles: sc-36254-V.

Molecular Weight of p-PKC ζ: 76 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) 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. 2) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-PKC ζ (Thr 410): sc-101778. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung carcinoma tissue showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Defer, N., et al. 2007. TNFR1 and TNFR2 signaling interplay in cardiac myocytes. J. Biol. Chem. 282: 35564-35573.
2. Shin, D.M., et al. 2008. *Mycobacterium tuberculosis* lipoprotein-induced association of TLR2 with protein kinase C ζ in lipid rafts contributes to reactive oxygen species-dependent inflammatory signalling in macrophages. Cell. Microbiol. 10: 1893-1905.
3. Yao, H., et al. 2010. Protein kinase C ζ mediates cigarette smoke/aldehyde- and lipopolysaccharide-induced lung inflammation and histone modifications. J. Biol. Chem. 285: 5405-5416.
4. Hillje, A.L., et al. 2011. Neural stem cells maintain their stemness through protein kinase C ζ-mediated inhibition of TRIM32. Stem Cells 29: 1437-1447.
5. Chiarini, A., et al. 2015. Bcl10 crucially nucleates the pro-apoptotic complexes comprising PDK1, PKCζ and caspase-3 at the nuclear envelope of etoposide-treated human cervical carcinoma C4-I cells. Int. J. Mol. Med. 36: 845-856.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **p-PKC ζ (H-2): sc-271962**, our highly recommended monoclonal alternatives to p-PKC ζ (Thr 410).