

# p-PKC $\zeta$ (Thr 410)-R: sc-12894-R

## 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 ( $\alpha$ ,  $\beta$ I,  $\beta$ II and  $\gamma$ ) and novel (n) PKC isoforms ( $\delta$ ,  $\epsilon$ ,  $\zeta$ ,  $\eta$  and  $\theta$ ). Upon phosphorylation on Thr 507, PKC  $\delta$  is activated, where it can inhibit the functionality of specific substrates, such as JAK2 and Stat3. PKC  $\delta$  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  $\zeta$  is induced by PDK1.

## CHROMOSOMAL LOCATION

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

## SOURCE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12894 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-PKC  $\zeta$  (Thr 410)-R is recommended for detection of Thr 410 phosphorylated PKC  $\zeta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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  $\zeta$  (Thr 410)-R is also recommended for detection of correspondingly phosphorylated PKC  $\zeta$  in additional species, including equine, canine, bovine, porcine and avian.

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

Molecular Weight of p-PKC  $\zeta$ : 76 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or PKC  $\zeta$  (h3): 293T Lysate: sc-170980.

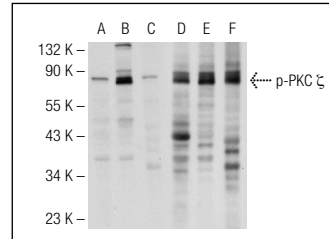
## RESEARCH USE

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

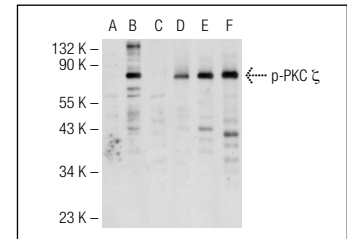
## STORAGE

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  $\zeta$  phosphorylation in untreated (A,D), PMA treated (B,E) and PMA and lambda protein phosphatase (sc-200312A) treated (C,F) HeLa whole cell lysates. Antibodies tested include p-PKC  $\zeta$  (Thr 410)-R: sc-12894-R (A,B,C) and PKC  $\zeta$  (H-1): sc-17781 (D,E,F).



Western blot analysis of PKC  $\zeta$  phosphorylation in non-transfected: sc-117752 (A,D), untreated human PKC  $\zeta$  transfected: sc-170980 (B,E) and lambda protein phosphatase (sc-200312A) treated human PKC  $\zeta$  transfected: sc-170980 (C,F) 293T whole cell lysates. Antibodies tested include p-PKC  $\zeta$  (Thr 410)-R: sc-12894-R (A,B,C) and PKC  $\zeta$  (H-1): sc-17781 (D,E,F).

## SELECT PRODUCT CITATIONS

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Try **p-PKC  $\zeta$  (H-2): sc-271962**, our highly recommended monoclonal alternative to p-PKC  $\zeta$  (Thr 410).