

p-PKC θ (Thr 703): sc-33026

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 , β I, β II 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. PKC θ can undergo autophosphorylation on Serine 676 (Ser 676) in the turn loop and Serine 695 (Ser 695) in the hydrophobic loop. Phosphorylation of Ser 676 may negatively regulate activation of NF κ B. Ser 695 is crucial to activate the phosphorylation Threonine 692 (Thr 692) and Threonine 703 (Thr 703) residues, both of which are necessary for mobility shift.

REFERENCES

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6. Osada, S., et al. 1992. A new member of the protein kinase C family, nPKC θ , predominantly expressed in skeletal muscle. *Mol. Cell. Biol.* 12: 3930-3938.
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CHROMOSOMAL LOCATION

Genetic locus: PRKCQ (human) mapping to 10p15.1; Prkcq (mouse) mapping to 2 A1.

STORAGE

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

SOURCE

p-PKC θ (Thr 703) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Thr 703 phosphorylated PKC θ of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-33026 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-PKC θ (Thr 703) is recommended for detection of Thr 703 phosphorylated PKC θ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

Suitable for use as control antibody for PKC θ siRNA (h): sc-36252, PKC θ siRNA (m): sc-36247, PKC θ shRNA Plasmid (h): sc-36252-SH, PKC θ shRNA Plasmid (m): sc-36247-SH, PKC θ shRNA (h) Lentiviral Particles: sc-36252-V and PKC θ shRNA (m) Lentiviral Particles: sc-36247-V.

Molecular Weight of p-PKC θ : 82 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, rat brain extract: sc-2392 or Jurkat whole cell lysate: sc-2204.

RESEARCH USE

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

PROTOCOLS

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