

PKC θ (E-7): sc-1680

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 , θ , λ / ι , μ and ν). Patterns of expression for each PKC isoform differ among tissues and PKC family members exhibit clear differences in their cofactor dependencies. For instance, the kinase activities of PKC δ and ϵ are independent of Ca^{2+} . On the other hand, most of the other PKC members possess phorbol ester-binding activities and kinase activities.

CHROMOSOMAL LOCATION

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

SOURCE

PKC θ (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 679-707 at the C-terminus of PKC θ of mouse origin.

PRODUCT

Each vial contains 200 μg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PKC θ (E-7) is available conjugated to agarose (sc-1680 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-1680 HRP), 200 μg /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-1680 PE), fluorescein (sc-1680 FITC), Alexa Fluor® 488 (sc-1680 AF488), Alexa Fluor® 546 (sc-1680 AF546), Alexa Fluor® 594 (sc-1680 AF594) or Alexa Fluor® 647 (sc-1680 AF647), 200 μg /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1680 AF680) or Alexa Fluor® 790 (sc-1680 AF790), 200 μg /ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-1680 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PKC θ (E-7) is recommended for detection of PKC θ 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).

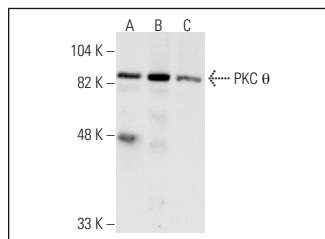
Suitable for use as control antibody for PKC θ siRNA (h): sc-36252, PKC θ siRNA (m): sc-36247, PKC θ siRNA (r): sc-270095, PKC θ shRNA Plasmid (h): sc-36252-SH, PKC θ shRNA Plasmid (m): sc-36247-SH, PKC θ shRNA Plasmid (r): sc-270095-SH, PKC θ shRNA Lentiviral Particles (h): sc-36252-V, PKC θ shRNA (m) Lentiviral Particles: sc-36247-V and PKC θ shRNA (r) Lentiviral Particles: sc-270095-V.

Molecular Weight of PKC θ : 82 kDa.

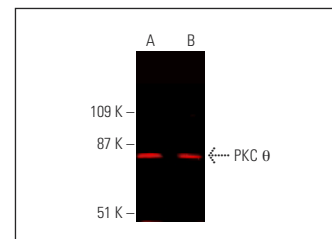
STORAGE

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

DATA



PKC θ (E-7): sc-1680. Western blot analysis of PKC θ expression in rat skeletal muscle (A) and rat thymus (B) tissue extracts and CTLL-2 whole cell lysate (C).



PKC θ (E-7): sc-1680. Near-infrared western blot analysis of PKC θ expression in Jurkat (A) and A-431 (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGx BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

- Schullery, D.S., et al. 1999. Regulated interaction of protein kinase C- δ with the heterogeneous nuclear ribonucleoprotein K protein. *J. Biol. Chem.* 274: 15101-15109.
- Hock, M.B. and Brown, M.A. 2003. Nuclear factor of activated T cells 2 transactivation in mast cells: a novel isoform-specific transactivation domain confers unique Fc ϵ RI responsiveness. *J. Biol. Chem.* 278: 26695-26703.
- Das, A., et al. 2004. Protein kinase C plays an essential role in sildenafil-induced cardioprotection in rabbits. *Am. J. Physiol. Heart Circ. Physiol.* 286: H1455-H1460.
- Banan, A., et al. 2005. θ isoform of protein kinase C alters barrier function in intestinal epithelium through modulation of distinct claudin isoforms: a novel mechanism for regulation of permeability. *J. Pharmacol. Exp. Ther.* 313: 962-982.
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- Welsch, S., et al. 2007. HIV-1 buds predominantly at the plasma membrane of primary human macrophages. *PLoS Pathog.* 3: e36.
- Smith, C.P., et al. 2007. Tamoxifen effect on L-DOPA induced response complications in parkinsonian rats and primates. *Neuropharmacology* 52: 515-526.
- Rubio, I., et al. 2010. TCR-induced activation of Ras proceeds at the plasma membrane and requires palmitoylation of N-Ras. *J. Immunol.* 185: 3536-3543.

RESEARCH USE

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

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