

PKC θ (C-19): sc-1875

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). Patterns of expression for each PKC isoform differs among tissues and PKC family members exhibit clear differences in their cofactor dependencies. For instance, the kinase activities of nPKC δ and ϵ are independent of Ca^{2+} . On the other hand, nPKC δ and ϵ , as well as all of the cPKC 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 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PKC θ of human origin.

PRODUCT

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

PKC θ (C-19) is available conjugated to agarose (sc-1875 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-1875 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKC θ (C-19) 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 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).

PKC θ (C-19) is also recommended for detection of PKC θ in additional species, including equine, canine, bovine and porcine.

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.

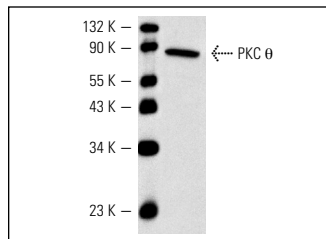
Molecular Weight of PKC θ : 82 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, CTLL-2 cell lysate: sc-2242 or Jurkat whole cell lysate: sc-2204.

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 (C-19): sc-1875. Western blot analysis of PKC θ expression in MOLT-4 whole cell lysate.

SELECT PRODUCT CITATIONS

- Das, K.C., et al. 1998. Protein kinase C δ -dependent induction of manganese superoxide dismutase gene expression by microtubule-active anti-cancer drugs. *J. Biol. Chem.* 273: 34639-34645.
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- Park, S.G., et al. 2009. The kinase PDK1 integrates T cell antigen receptor and CD28 coreceptor signaling to induce NF κ B and activate T cells. *Nat. Immunol.* 10: 158-166.
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- Jalagadugula, G., et al. 2011. Platelet protein kinase C- θ deficiency with human RUNX1 mutation: PRKCQ is a transcriptional target of RUNX1. *Arterioscler. Thromb. Vasc. Biol.* 31: 921-927.
- Chuang, H.C., et al. 2011. The kinase GLK controls autoimmunity and NF κ B signaling by activating the kinase PKC- θ in T cells. *Nat. Immunol.* 12: 1113-1118.
- Yamamoto, H., et al. 2011. KIT-negative gastrointestinal stromal tumor of the abdominal soft tissue: a clinicopathologic and genetic study of 10 cases. *Am. J. Surg. Pathol.* 35: 1287-1295.

RESEARCH USE

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



Try **PKC θ (E-7): sc-1680** or **PKC (A-3): sc-17769**, our highly recommended monoclonal alternatives to PKC θ (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **PKC θ (E-7): sc-1680**.