

PKC θ (C-18): sc-212

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 many different isoforms (α , β I, β II, γ , δ , ϵ , ζ , η , θ , ι , λ , 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 (C-18) is available as either rabbit (sc-212) or goat (sc-212-G) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of PKC θ of mouse origin.

PRODUCT

Each vial contains either 100 μg (sc-212) or 200 μg (sc-212-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PKC θ (C-18) is available conjugated to agarose (sc-212 AC), 500 μg /0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-212 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKC θ (C-18) 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 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: Jurkat whole cell lysate: sc-2204, CTLL-2 cell lysate: sc-2242 or MOLT-4 cell lysate: sc-2233.

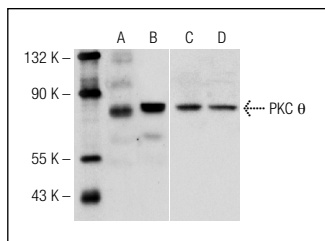
STORAGE

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

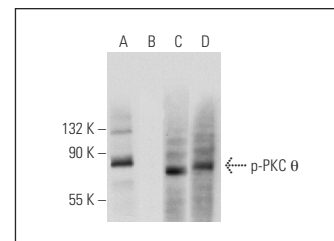
RESEARCH USE

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

DATA



Western blot analysis of PKC θ expression in CTLL-2 (A), Jurkat (B,C) and MOLT-4 (D) whole cell lysates. Antibodies tested include PKC θ (C-18)-G: sc-212-G (A,B) and PKC θ (C-19): sc-1875 (C,D).



Western blot analysis of PKC θ phosphorylation in PMA treated (A,C) and PMA and lambda protein phosphatase treated (B,D) Jurkat whole cell lysates. Antibodies tested include p-PKC θ (Ser 676): sc-33024 (A,B) and PKC θ (C-18): sc-212 (C,D).

SELECT PRODUCT CITATIONS

- Supakar, P.C., et al. 1995. Nuclear factor κB functions as a negative regulator for the rat androgen receptor gene and NF κB activity increases during the age-dependent desensitization of the liver. *J. Biol. Chem.* 270: 837-842.
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- Kedei, N., et al. 2011. The synthetic bryostatin analog Merle 23 dissects distinct mechanisms of bryostatin activity in the LNCaP human prostate cancer cell line. *Biochem. Pharmacol.* 81: 1296-1308.
- Garrel, G., et al. 2011. Unsaturated fatty acids stimulate LH secretion via novel PKC ϵ and θ in gonadotrope cells and inhibit GnRH-induced LH release. *Endocrinology* 152: 3905-3916.
- López-Huertas, M.R., et al. 2011. Protein kinase C θ is a specific target for inhibition of the HIV type 1 replication in CD4⁺ T lymphocytes. *J. Biol. Chem.* 286: 27363-27377.
- Zanin-Zhorov, A., et al. 2012. Scaffold protein Disc large homolog 1 is required for T-cell receptor-induced activation of regulatory T-cell function. *Proc. Natl. Acad. Sci. USA* 109: 1625-1630.
- Park-York, M., et al. 2013. PKC θ expression in the amygdala regulates Insulin signaling, food intake and body weight. *Obesity* 21: 755-764.

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