

PKC λ/ι (E-7): sc-376344

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.

REFERENCES

1. Takai, Y., et al. 1979. Calcium-dependent activation of a multifunctional protein kinase by membrane phospholipids. *J. Biol. Chem.* 254: 3692-3695.
2. Castagna, M., et al. 1982. Direct activation of calcium-activated, phospholipid-dependent protein kinase by tumor-promoting phorbol esters. *J. Biol. Chem.* 257: 7847-7851.
3. Kikkawa, U., et al. 1983. Protein kinase C as a possible receptor of tumor-promoting phorbol esters. *J. Biol. Chem.* 258: 11442-11445.
4. Nishizuka, Y. 1984. The role of protein kinase C in cell surface signal transduction and tumour promotion. *Nature* 308: 693-698.

CHROMOSOMAL LOCATION

Genetic locus: PRKCI (human) mapping to 3q26.2; Prkci (mouse) mapping to 3 A3.

SOURCE

PKC λ/ι (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 191-229 within an internal region of PKC λ/ι of human origin.

PRODUCT

Each vial contains 200 μg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PKC λ/ι (E-7) is available conjugated to agarose (sc-376344 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-376344 HRP), 200 μg /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376344 PE), fluorescein (sc-376344 FITC), Alexa Fluor® 488 (sc-376344 AF488), Alexa Fluor® 546 (sc-376344 AF546), Alexa Fluor® 594 (sc-376344 AF594) or Alexa Fluor® 647 (sc-376344 AF647), 200 μg /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376344 AF680) or Alexa Fluor® 790 (sc-376344 AF790), 200 μg /ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376344 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PKC λ/ι (E-7) is recommended for detection of PKC λ/ι of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

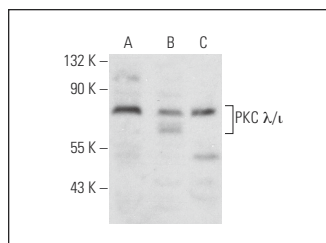
PKC λ/ι (E-7) is also recommended for detection of PKC λ/ι in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for PKC λ/ι siRNA (h): sc-36257, PKC λ/ι siRNA (m): sc-36258, PKC λ/ι siRNA (r): sc-270297, PKC λ/ι shRNA Plasmid (h): sc-36257-SH, PKC λ/ι shRNA Plasmid (m): sc-36258-SH, PKC λ/ι shRNA Plasmid (r): sc-270297-SH, PKC λ/ι shRNA (h) Lentiviral Particles: sc-36257-V, PKC λ/ι shRNA (m) Lentiviral Particles: sc-36258-V and PKC λ/ι shRNA (r) Lentiviral Particles: sc-270297-V.

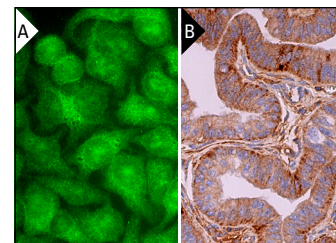
Molecular Weight of PKC λ/ι : 68 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2410, c4 whole cell lysate: sc-364186 or KNRK whole cell lysate: sc-2214.

DATA



PKC λ/ι (E-7): sc-376344. Western blot analysis of PKC λ/ι expression in SK-N-MC (A), c4 (B) and KNRK (C) whole cell lysates.



PKC λ/ι (E-7): sc-376344. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Dey, A., et al. 2021. The interruption of atypical PKC signaling and temozolomide combination therapy against glioblastoma. *Cell. Signal.* 77: 109819.

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.

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