SANTA CRUZ BIOTECHNOLOGY, INC.

p-PKC μ (Ser 738): sc-101781

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, βI, βII, 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.

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.
5. Nishizuka, Y. 1984. Turnover of inositol phospholipids and signal transduction. Science 225: 1365-1370.
6. Ohno, S., et al. 1991. Structural and functional diversities of a family of signal transducing protein kinases, protein kinase C family; two distinct classes of PKC, conventional cPKC and novel nPKC. Adv. Enzyme Regul. 31: 287-303.
7. Olivier, A.R., et al. 1991. Expression and characterization of protein kinase C δ. Eur. J. Biochem. 200: 805-810.
8. 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.

CHROMOSOMAL LOCATION

Genetic locus: PRKD1 (human) mapping to 14q12; Prkd1 (mouse) mapping to 12 B3.

SOURCE

p-PKC μ (Ser 738) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 738 phosphorylated PKC μ of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-PKC μ (Ser 738) is recommended for detection of Ser 738 phosphorylated PKC μ of human origin and correspondingly phosphorylated Ser 744 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PKC μ siRNA (h): sc-36245, PKC μ siRNA (m): sc-36260, PKC μ shRNA Plasmid (h): sc-36245-SH, PKC μ shRNA Plasmid (m): sc-36260-SH, PKC μ shRNA (h) Lentiviral Particles: sc-36245-V and PKC μ shRNA (m) Lentiviral Particles: sc-36260-V.

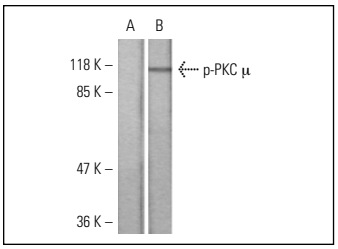
Molecular Weight of p-PKC μ: 115 kDa.

Positive Controls: A-431 + EGF whole cell lysate: sc-2202.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-PKC μ (Ser 738): sc-101781. Western blot analysis of phosphorylated PKC μ expression in untreated (**A**) and EGF-treated (**B**) A-431 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Pazos, Y., et al. 2007. Stimulation of extracellular signal-regulated kinases and proliferation in the human gastric cancer cells KATO-III by obestatin. Growth Factors 25: 373-381.
2. Jiang, Q., et al. 2014. Golgin-84-associated Golgi fragmentation triggers tau hyperphosphorylation by activation of cyclin-dependent kinase-5 and extracellular signal-regulated kinase. Neurobiol. Aging 35: 1352-1363.

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.