SANTA CRUZ BIOTECHNOLOGY, INC.

PKC μ (D-20): sc-935

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, λ/ι, μ and ν). 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: PRKD1 (human) mapping to 14q12; Prkcm (mouse) mapping to 12 B3.

SOURCE

PKC μ (D-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PKC μ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-935 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose (sc-935 AC) conjugate for immunoprecipitation, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

PKC μ (D-20) is recommended for detection of PKC μ 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), 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 μ (D-20) is also recommended for detection of PKC μ in additional species, including equine, canine, bovine and porcine.

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 PKC μ: 115 kDa.

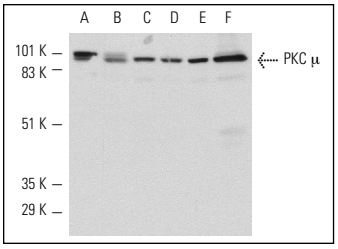
STORAGE

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

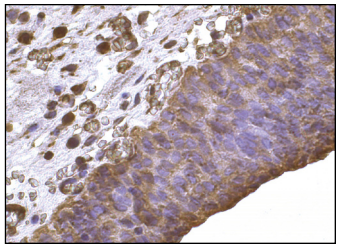
RESEARCH USE

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

DATA



PKC μ (D-20): sc-935. Western blot analysis of PKC μ expression in NIH/3T3 (**A**), 3611-RF (**B**), A-431 (**C**), HeLa (**D**), Jurkat (**E**) and K-562 (**F**) whole cell lysates.



PKC μ (D-20): sc-935. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. Weiss, E., et al. 1997. Suppression of apoptosis in COLO 205 cells by the phorbol ester TPA may be mediated by the PKC isoenzyme α. Int. J. Oncol. 10: 1119-1123.
2. Das, M., et al. 1997. Selected isozymes of PKC contribute to the augmented growth of fetal and neonatal bovine PA adventitial fibroblasts. Am. J. Physiol. 273: L1216-L1284.
3. Brenner, W., et al. 2010. Adhesion of renal carcinoma cells to endothelial cells depends on PKCμ. BMC Cancer 10: 183.
4. Jadali, A., et al. 2010. Protein kinase D is implicated in the reversible commitment to differentiation in primary cultures of mouse keratinocytes. J. Biol. Chem. 285: 23387-23397.
5. Paris, L.L., et al. 2010. Regulation of Syk by phosphorylation on serine in the linker insert. J. Biol. Chem. 285: 39844-39854.
6. Azoitei, N., et al. 2010. Protein kinase D2 is a crucial regulator of tumour cell-endothelial cell communication in gastrointestinal tumours. Gut 59: 1316-1330.
7. Lai, I.Y., et al. 2011. X-box binding protein 1 induces the expression of the lytic cycle transactivator of Kaposi's sarcoma-associated herpesvirus but not Epstein-Barr virus in co-infected primary effusion lymphoma. J. Gen. Virol. 92: 421-431.
8. Karam, M., et al. 2012. Protein kinase D1 stimulates proliferation and enhances tumorigenesis of MCF-7 human breast cancer cells through a MEK/ERK-dependent signaling pathway. Exp. Cell Res. 318: 558-569.