SANTA CRUZ BIOTECHNOLOGY, INC.

PKC μ (C-20): sc-639

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 at least two major classes including conventional (c) PKC isoforms (α, βI, βII 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: PRKD1 (human) mapping to 14q12; Prkcm (mouse) mapping to 12 B3.

SOURCE

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

PRODUCT

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

PKC μ (C-20) is available conjugated to agarose (sc-639 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-639 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKC μ (C-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 (C-20) is also recommended for detection of PKC μ in additional species, including equine, 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.

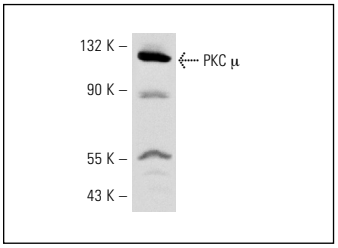
Molecular Weight of PKC μ: 115 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, 3611-RF whole cell lysate: sc-2215 or A-431 whole cell lysate: sc-2201.

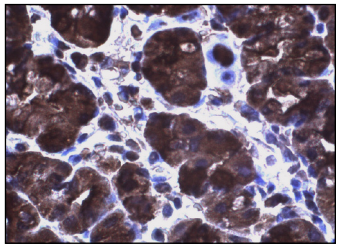
STORAGE

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

DATA



PKC μ (C-20): sc-639. Western blot analysis of PKC μ expression in K-562 whole cell lysate.



PKC μ (C-20): sc-639. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Rennecke, J., et al. 1996. Immunological demonstration of protein kinase C μ in murine tissues and various cell lines. Differential recognition of phosphorylated forms and lack of down-regulation upon 12-O-tetradecanoylphorphol-13-acetate treatment of cells. Eur. J. Biochem. 242: 428-432.
2. Mutsukura, K., et al. 2009. Familial Creutzfeldt-Jakob disease with a V180I mutation: comparative analysis with pathological findings and diffusion-weighted images. Dement. Geriatr. Cogn. Disord. 28: 550-557.
3. Ellwanger, K., et al. 2011. Protein kinase D controls voluntary running induced skeletal muscle remodeling. Biochem. J. 440: 327-324.
4. Kienzle, C., et al. 2012. PKD controls mitotic Golgi complex fragmentation through a Raf-MEK1 pathway. Mol. Biol. Cell 24: 222-233.
5. von Brandenstein, M., et al. 2012. MicroRNA 15a, inversely correlated to PKCα, is a potential marker to differentiate between benign and malignant renal tumors in biopsy and urine samples. Am. J. Pathol. 180: 1787-1797.
6. Gan, H., et al. 2013. Protein kinase D promotes airway epithelial barrier dysfunction and permeability through down-regulation of claudin-1. J. Biol. Chem. 288: 37343-37354.
7. Hao, Q., et al. 2013. Protein kinases D2 and D3 are novel growth regulators in HCC1806 triple-negative breast cancer cells. Anticancer Res. 33: 393-399.

RESEARCH USE

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