SANTA CRUZ BIOTECHNOLOGY, INC.

PKC γ (C-19): sc-211

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, μ 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: PRKCG (human) mapping to 19q13.42; Prkcg (mouse) mapping to 7 A1.

SOURCE

PKC γ (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PKC γ 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.

Blocking peptide available for competition studies, sc-211 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKC γ (C-19) is recommended for detection of PKC γ 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).

PKC γ (C-19) is also recommended for detection of PKC γ in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for PKC γ siRNA (h): sc-36248, PKC γ siRNA (m): sc-36249, PKC γ shRNA Plasmid (h): sc-36248-SH, PKC γ shRNA Plasmid (m): sc-36249-SH, PKC γ shRNA (h) Lentiviral Particles: sc-36248-V and PKC γ shRNA (m) Lentiviral Particles: sc-36249-V.

Molecular Weight of PKC γ: 80 kDa.

Positive Controls: PKC γ (h): 293T Lysate: sc-116200.

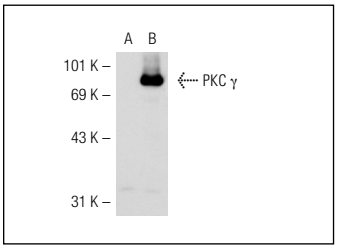
STORAGE

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

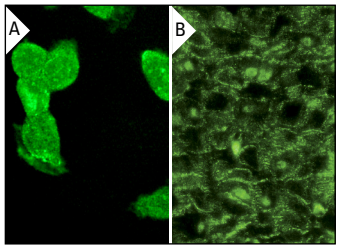
RESEARCH USE

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

DATA



PKC γ (C-19): sc-211. Western blot analysis of PKC γ expression in non-transfected: sc-117752 (**A**) and human PKC γ transfected: sc-116200 (**B**) 293T whole cell lysates.



PKC γ (C-19): sc-211. Immunofluorescence staining of methanol-fixed 3611-RF cells showing cytoplasmic staining (**A**). Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Malmberg, A.B., et al. 1997. Preserved acute pain and reduced neuropathic pain in mice lacking PKCγ. Science 278: 279-283.
2. Liu, Q., et al. 2009. Protein kinase Cα, but not PKCβ or PKCγ, regulates contractility and heart failure susceptibility: implications for ruboxistaurin as a novel therapeutic approach. Circ. Res. 105: 194-200.
3. Starkey, M.L., et al. 2009. Expression of the regeneration-associated protein SPRR1A in primary sensory neurons and spinal cord of the adult mouse following peripheral and central injury. J. Comp. Neurol. 513: 51-68.
4. Garczarczyk, D., et al. 2010. Protein kinase Cγ in colon cancer cells: expression, Thr514 phosphorylation and sensitivity to butyrate-mediated upregulation as related to the degree of differentiation. Chem. Biol. Interact. 185: 25-32.
5. Zhang, Q., et al. 2010. PLD1-dependent PKCγ activation downstream to Src is essential for the development of pathologic retinal neovascularization. Blood 116: 1377-1385.
6. Piazzi, M., et al. 2010. eEF1A phosphorylation in the nucleus of Insulin-stimulated C2C12 myoblasts: Ser53 is a novel substrate for protein kinase C βI. Mol. Cell. Proteomics 9: 2719-2728.
7. Lu, G., et al. 2010. Chronic morphine treatment impaired hippocampal long-term potentiation and spatial memory via accumulation of extracellular adenosine acting on adenosine A1 receptors. J. Neurosci. 30: 5058-5070.
8. Tsai, R.K., et al. 2011. PKCδ-dependent signaling mediates ethambutol-induced toxic effects on human retinal pigment cells. Mol. Vis. 17: 1564-1576.