SANTA CRUZ BIOTECHNOLOGY, INC.

PKC (A-9): sc-17804

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, 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.

SOURCE

PKC (A-9) is a mouse monoclonal antibody raised against amino acids 373-672 mapping at the C-terminus of PKC α of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PKC (A-9) is available conjugated to agarose (sc-17804 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17804 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17804 PE), fluorescein (sc-17804 FITC), Alexa Fluor® 488 (sc-17804 AF488), Alexa Fluor® 546 (sc-17804 AF546), Alexa Fluor® 594 (sc-17804 AF594) or Alexa Fluor® 647 (sc-17804 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17804 AF680) or Alexa Fluor® 790 (sc-17804 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

PKC (A-9) is recommended for detection of all PKC family members 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).

Suitable for use as control antibody for PKC siRNA (h): sc-29449, PKC shRNA Plasmid (h): sc-29449-SH and PKC shRNA (h) Lentiviral Particles: sc-29449-V.

Molecular Weight of PKC: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or 3611-RF whole cell lysate: sc-2215.

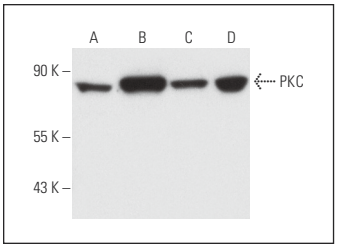
STORAGE

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

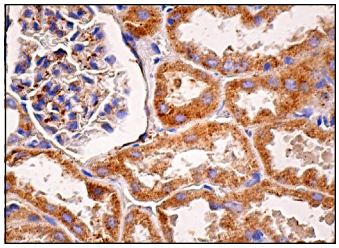
RESEARCH USE

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

DATA



PKC (A-9): sc-17804. Western blot analysis of PKC expression in HeLa (**A**), Jurkat (**B**), NIH/3T3 (**C**) and 3611-RF (**D**) whole cell lysates.



PKC (A-9): sc-17804. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli and tubules.

SELECT PRODUCT CITATIONS

1. Chang, H., et al. 2003. Cyclical mechanical stretch enhances angiopoietin-2 and Tie2 receptor expression in cultured human umbilical vein endothelial cells. Clin. Sci. 104: 421-428.
2. Qi, Q., et al. 2008. Involvement of matrix metalloproteinase 2 and 9 in gambogic acid induced suppression of MDA-MB-435 human breast carcinoma cell lung metastasis. J. Mol. Med. 86: 1367-1377.
3. Moon, U.Y., et al. 2010. Activation of c-Myb transcription factor is critical for PMA-induced lysozyme expression in airway epithelial cells. J. Cell. Biochem. 111: 476-487.
4. Fortier, E.E., et al. 2011. Circadian variation of the response of T cells to antigen. J. Immunol. 187: 6291-6300.
5. Zhang, W., et al. 2012. Role of 14-3-3ζ in platelet glycoprotein Ibα-von Willebrand factor interaction-induced signaling. Int. J. Mol. Sci. 13: 5364-5374.
6. Sun, H., et al. 2014. Kainate receptor activation induces glycine receptor endocytosis through PKC deSUMOylation. Nat. Commun. 5: 4980.
7. Gu, S.H., et al. 2020. Expression of protein kinase C in relation to the embryonic diapause process in the silkworm, *Bombyx mori*. J. Insect Physiol. 121: 104010.
8. Tékus, V., et al. 2020. Protective effects of the novel amine-oxidase inhibitor multi-target drug SZV 1287 on streptozotocin-induced β cell damage and diabetic complications in rats. Biomed. Pharmacother. 134: 111105.
9. Hahnvajanawong, C., et al. 2021. Inhibitory effect of isomorellin on cholangiocarcinoma cells via suppression of NFκB translocation, the phosphorylated p38 MAPK pathway and MMP-2 and uPA expression. Exp. Ther. Med. 21: 151.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.