SANTA CRUZ BIOTECHNOLOGY, INC.

PKC ε (C-15): sc-214

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+}.

CHROMOSOMAL LOCATION

Genetic locus: PRKCE (human) mapping to 2p21; Prkce (mouse) mapping to 17 E4.

SOURCE

PKC ε (C-15) is available as either rabbit (sc-214) or goat (sc-214-G) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of PKC ε 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-214 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for ChIP application, sc-214 X, 200 µg/0.1 ml.

APPLICATIONS

PKC ε (C-15) is recommended for detection of PKC ε 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 ε (C-15) is also recommended for detection of PKC ε in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PKC ε siRNA (h): sc-36251, PKC ε siRNA (m): sc-36250, PKC ε shRNA Plasmid (h): sc-36251-SH, PKC ε shRNA Plasmid (m): sc-36250-SH, PKC ε shRNA (h) Lentiviral Particles: sc-36251-V and PKC ε shRNA (m) Lentiviral Particles: sc-36250-V.

PKC ε (C-15) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of PKC ε: 90 kDa.

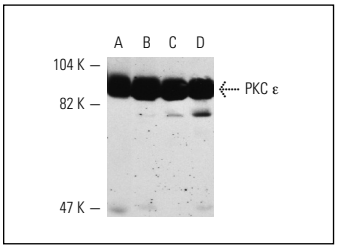
STORAGE

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

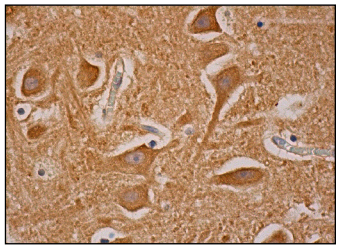
RESEARCH USE

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

DATA



PKC ε (C-15): sc-214. Western blot analysis of PKC ε expression in rat heart extract (**A**) and H4 (**B**), IMR-32 (**C**) and SK-N-SH (**D**) whole cell lysates.



PKC ε (C-15)-G: sc-214-G. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells.

SELECT PRODUCT CITATIONS

1. Cai, H., et al. 1997. Role of diacylglycerol-regulated PKC isotypes in growth factor activation of the Raf-1 protein kinase. Mol. Cell. Biol. 17: 732-741.
2. Durgan, J. and Parker, P.J. 2010. Regulation of the tumour suppressor Fbw7α by PKC-dependent phosphorylation and cancer-associated mutations. Biochem. J. 432: 77-87.
3. Adhikary, G., et al. 2010. PKC-δ and -η, MEKK-1, MEK-6, MEK-3, and p38-δ are essential mediators of the response of normal human epidermal keratinocytes to differentiating agents. J. Invest. Dermatol. 130: 2017-2030.
4. Hao, F., et al. 2011. Protein kinase C α signaling regulates inhibitor of DNA binding 1 in the intestinal epithelium. J. Biol. Chem. 286: 18104-18117.
5. Hafeez, B.B., et al. 2011. Genetic ablation of PKC ε inhibits prostate cancer development and metastasis in transgenic mouse model of prostate adenocarcinoma. Cancer Res. 71: 2318-2327.
6. Kveiborg, M., et al. 2011. PKCα and PKCδ regulate ADAM17-mediated ectodomain shedding of heparin binding-EGF through separate pathways. PLoS ONE 6: e17168.
7. Kedei, N., et al. 2011. The synthetic bryostatin analog Merle 23 dissects distinct mechanisms of bryostatin activity in the LNCaP human prostate cancer cell line. Biochem. Pharmacol. 81: 1296-1308.
8. Gruber, P., et al. 2011. Barbituric acid derivative BAS 02104951 inhibits PKCε, PKCη, PKCε/RACK2 interaction, Elk-1 phosphorylation in HeLa and PKCε and η translocation in PC3 cells following TPA-induction. J. Biochem. 149: 331-336.