

PKC ζ (N-17): sc-7262

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 , β I, β II 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.

REFERENCES

1. Takai, Y., et al. 1979. Calcium-dependent activation of a multifunctional protein kinase by membrane phospholipids. *J. Biol. Chem.* 254: 3692-3695.
2. Castagna, M., et al. 1982. Direct activation of calcium-activated, phospholipid-dependent protein kinase by tumor-promoting phorbol esters. *J. Biol. Chem.* 257: 7847-7851.

CHROMOSOMAL LOCATION

Genetic locus: PRKCZ (human) mapping to 1p36.33, PRKCI (human) mapping to 3q26.2; Prkcz (mouse) mapping to 4 E2, Prkci (mouse) mapping to 3 A3.

SOURCE

PKC ζ (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PKC ζ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7262 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKC ζ (N-17) is recommended for detection of PKC ζ and, to a lesser extent, PKC ι of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Molecular Weight of PKC ζ : 80 kDa.

Positive Controls: 3611-RF whole cell lysate: sc-2215, A-431 whole cell lysate: sc-2201 or AML-193 whole cell lysate.

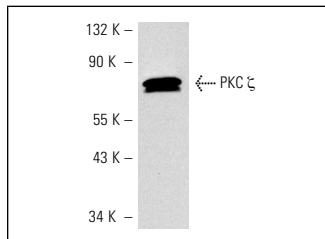
RESEARCH USE

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

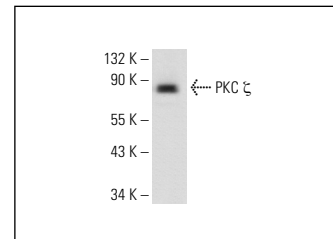
STORAGE

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

DATA



PKC ζ (N-17): sc-7262. Western blot analysis of PKC ζ expression in 3611-RF whole cell lysate.



PKC ζ (N-17): sc-7262. Western blot analysis of PKC ζ expression in AML-193 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Denning, M.F., et al. 1998. Protein kinase C is activated by caspase-dependent proteolysis during ultraviolet radiation-induced apoptosis of human keratinocytes. *J. Biol. Chem.* 273: 29995-30002.
2. Patel, N., et al. 2003. Intracellular segregation of phosphatidylinositol-3,4,5-trisphosphate by Insulin-dependent Actin remodeling in L6 skeletal muscle cells. *Mol. Cell. Biol.* 23: 4611-4626.
3. Crisanti, P., et al. 2006. The role of PKC ζ in NMDA-induced retinal ganglion cell death: prevention by aspirin. *Apoptosis* 11: 983-991.
4. Lecain, E., et al. 2007. The role of PKC ζ in amikacin-induced apoptosis in the cochlea: prevention by aspirin. *Apoptosis* 12: 333-342.
5. Song, P., et al. 2008. PKC ζ -dependent LKB1 serine 428 phosphorylation increases LKB1 nucleus export and apoptosis in endothelial cells. *J. Biol. Chem.* 283: 12446-12455.
6. 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.
7. Wieteska-Skrzeczynska, W., et al. 2011. Growth factor and cytokine interactions in myogenesis. Part II. Expression of IGF binding proteins and protein kinases essential for myogenesis in mouse C2C12 myogenic cells exposed to TNF- α and IFN- γ . *Pol. J. Vet. Sci.* 14: 425-431.
8. Pan, C.H., et al. 2012. Salvianolic acid B inhibits SDF-1 α -stimulated cell proliferation and migration of vascular smooth muscle cells by suppressing CXCR4 receptor. *Vascul. Pharmacol.* 56: 98-105.

MONOS
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Try **PKC ζ (H-1): sc-17781** or **PKC ζ (B-7): sc-393218**, our highly recommended monoclonal alternatives to PKC ζ (N-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PKC ζ (H-1): sc-17781**.