

# PKC $\eta$ (C-15): sc-215

## 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 (DAGs) 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 ( $\alpha$ ,  $\beta$ I,  $\beta$ II and  $\gamma$ ) and novel (n) PKC isoforms ( $\delta$ ,  $\epsilon$ ,  $\zeta$ ,  $\eta$  and  $\theta$ ). 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 nPKC  $\delta$  and  $\epsilon$  are independent of  $Ca^{2+}$ . On the other hand, nPKC  $\delta$  and  $\epsilon$ , as well as all of the cPKC members, possess phorbol ester-binding activities and kinase activities.

## CHROMOSOMAL LOCATION

Genetic locus: PRKCH (human) mapping to 14q23.1; Prkch (mouse) mapping to 12 C3.

## SOURCE

PKC  $\eta$  (C-15) is available as either rabbit (sc-215) or goat (sc-215-G) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of PKC  $\eta$  of mouse origin.

## PRODUCT

Each vial contains either 100  $\mu$ g (sc-215) or 200  $\mu$ g (sc-215-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-215 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PKC  $\eta$  (C-15) is recommended for detection of PKC  $\eta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

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

Suitable for use as control antibody for PKC  $\eta$  siRNA (h): sc-44019, PKC  $\eta$  siRNA (m): sc-44020, PKC  $\eta$  shRNA Plasmid (h): sc-44019-SH, PKC  $\eta$  shRNA Plasmid (m): sc-44020-SH, PKC  $\eta$  shRNA (h) Lentiviral Particles: sc-44019-V and PKC  $\eta$  shRNA (m) Lentiviral Particles: sc-44020-V.

Molecular Weight of PKC  $\eta$ : 82 kDa.

Positive Controls: PKC  $\eta$  (h): 293T Lysate: sc-158861, mouse lung extract: sc-2390 or WI-38 whole cell lysate: sc-364260.

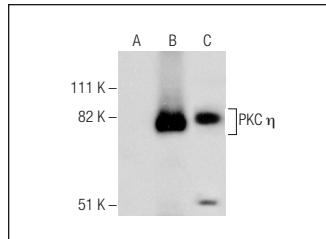
## STORAGE

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

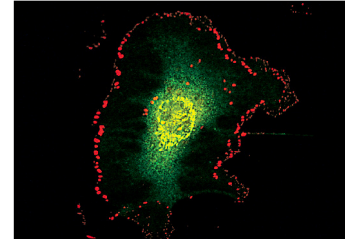
## RESEARCH USE

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

## DATA



PKC  $\eta$  (C-15)-G: sc-215-G. Western blot analysis of PKC  $\eta$  expression in non-transfected 293T: sc-117752 (A), human PKC  $\eta$  transfected 293T: sc-158861 (B) and WI-38 (C) whole cell lysates.



Immunofluorescence staining of methanol/acetone fixed rat embryo fibroblasts with both PKC  $\eta$  (C-15): sc-215 (fluorescein) and p-Tyr (PY20): sc-508 (rhodamine).

## SELECT PRODUCT CITATIONS

- Weiss, E., et al. 1997. Suppression of apoptosis in COLO 205 cells by the phorbol ester TPA may be mediated by the PKC isoenzyme  $\alpha$ . *Int. J. Oncol.* 10: 1119-1123.
- Huang, L., et al. 2008. Protein kinase C $\epsilon$  mediates polymeric fibronectin assembly on the surface of blood-borne rat breast cancer cells to promote pulmonary metastasis. *J. Biol. Chem.* 283: 7616-7627.
- Rotem-Dai, N., et al. 2009. PKC $\eta$  confers protection against apoptosis by inhibiting the pro-apoptotic JNK activity in MCF-7 cells. *Exp. Cell Res.* 315: 2616-2623.
- Holmes, K., et al. 2010. VEGF stimulates RCAN1.4 expression in endothelial cells via a pathway requiring  $Ca^{2+}$ /calcineurin and protein kinase C- $\delta$ . *PLoS ONE* 5: e11435.
- Adhikary, G., et al. 2010. PKC- $\delta$  and - $\eta$ , MEKK-1, MEK-6, MEK-3, and p38- $\delta$  are essential mediators of the response of normal human epidermal keratinocytes to differentiating agents. *J. Invest. Dermatol.* 130: 2017-2030.
- Tamarkin, A., et al. 2011. DNA damage targets PKC $\eta$  to the nuclear membrane via its C1b domain. *Exp. Cell Res.* 317: 1465-1475.
- Gruber, P., et al. 2011. Barbituric acid derivative BAS 02104951 inhibits PKC $\epsilon$ , PKC $\eta$ , PKC $\epsilon$ /RACK2 interaction, Elk-1 phosphorylation in HeLa and PKC $\epsilon$  and  $\eta$  translocation in PC3 cells following TPA-induction. *J. Biochem.* 149: 331-336.
- Hara, T., et al. 2011. PKC $\eta$  promotes a proliferation to differentiation switch in keratinocytes via upregulation of p27<sup>Kip1</sup> mRNA through suppression of JNK/c-Jun signaling under stress conditions. *Cell Death Dis.* 2: e157.


 MONOS  
Satisfaction  
Guaranteed

Try **PKC  $\eta$  (31): sc-136036** or **PKC (A-3): sc-17769**, our highly recommended monoclonal alternatives to PKC  $\eta$  (C-15).