

# PKC $\mu$ (G-9): sc-518065

## 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 ( $\alpha$ ,  $\beta$ I,  $\beta$ II,  $\gamma$ ,  $\delta$ ,  $\epsilon$ ,  $\zeta$ ,  $\eta$ ,  $\theta$ ,  $\iota$ ,  $\lambda$ ,  $\mu$  and  $\nu$ ). 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  $\delta$  and  $\epsilon$  are independent of  $\text{Ca}^{2+}$ . On the other hand, most of the other PKC 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.
3. Kikkawa, U., et al. 1983. Protein kinase C as a possible receptor of tumor-promoting phorbol esters. *J. Biol. Chem.* 258: 11442-11445.
4. Nishizuka, Y. 1984. The role of protein kinase C in cell surface signal transduction and tumour promotion. *Nature* 308: 693-698.
5. Nishizuka, Y. 1984. Turnover of inositol phospholipids and signal transduction. *Science* 225: 1365-1370.
6. Ohno, S., et al. 1991. Structural and functional diversities of a family of signal transducing protein kinases, protein kinase C family; two distinct classes of PKC, conventional cPKC and novel nPKC. *Adv. Enzyme Regul.* 31: 287-303.
7. Olivier, A.R., et al. 1991. Expression and characterization of protein kinase C  $\delta$ . *Eur. J. Biochem.* 200: 805-810.

## CHROMOSOMAL LOCATION

Genetic locus: PRKD1 (human) mapping to 14q12.

## SOURCE

PKC  $\mu$  (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 375-399 within an internal region of PKC  $\mu$  of human origin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PKC  $\mu$  (G-9) is available conjugated to agarose (sc-518065 AC), 500  $\mu\text{g}$ /0.25 ml agarose in 1 ml, for IP; to HRP (sc-518065 HRP), 200  $\mu\text{g}$ /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518065 PE), fluorescein (sc-518065 FITC), Alexa Fluor<sup>®</sup> 488 (sc-518065 AF488), Alexa Fluor<sup>®</sup> 546 (sc-518065 AF546), Alexa Fluor<sup>®</sup> 594 (sc-518065 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-518065 AF647), 200  $\mu\text{g}$ /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-518065 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-518065 AF790), 200  $\mu\text{g}$ /ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

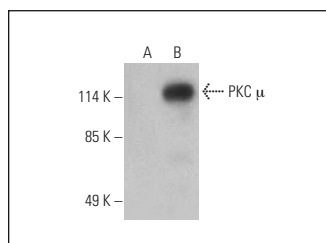
PKC  $\mu$  (G-9) is recommended for detection of PKC  $\mu$  of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PKC  $\mu$  siRNA (h): sc-36245, PKC  $\mu$  shRNA Plasmid (h): sc-36245-SH and PKC  $\mu$  shRNA (h) Lentiviral Particles: sc-36245-V.

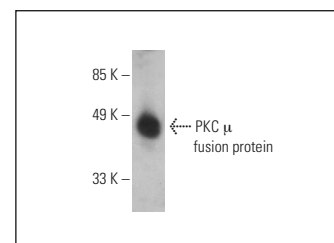
Molecular Weight of PKC  $\mu$ : 115 kDa.

Positive Controls: human PKC  $\mu$  transfected HEK293T cell lysate.

## DATA



PKC  $\mu$  (G-9): sc-518065. Western blot analysis of PKC  $\mu$  expression in non-transfected (A) and human PKC  $\mu$  transfected (B) HEK293T whole cell lysates.



PKC  $\mu$  (G-9): sc-518065. Western blot analysis of human recombinant PKC  $\mu$  fusion protein.

## RESEARCH USE

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