

PKC γ (C-4): sc-166385

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 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 , θ , λ /l, 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.

CHROMOSOMAL LOCATION

Genetic locus: PRKCG (human) mapping to 19q13.42; Prkcg (mouse) mapping to 7 A1.

SOURCE

PKC γ (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 673-697 at the C-terminus of PKC γ of mouse origin.

PRODUCT

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

PKC γ (C-4) is available conjugated to agarose (sc-166385 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166385 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166385 PE), fluorescein (sc-166385 FITC), Alexa Fluor® 488 (sc-166385 AF488), Alexa Fluor® 546 (sc-166385 AF546), Alexa Fluor® 594 (sc-166385 AF594) or Alexa Fluor® 647 (sc-166385 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166385 AF680) or Alexa Fluor® 790 (sc-166385 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166385 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PKC γ (C-4) is recommended for detection of PKC γ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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).

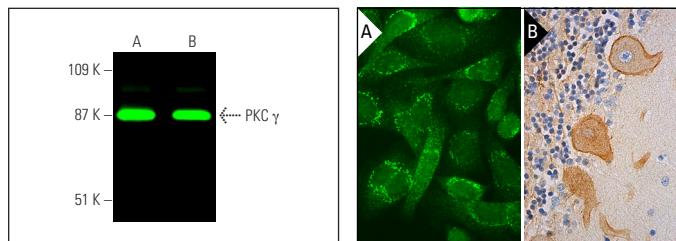
Suitable for use as control antibody for PKC γ siRNA (h): sc-36248, PKC γ siRNA (m): sc-36249, PKC γ shRNA Plasmid (h): sc-36248-SH, PKC γ shRNA Plasmid (m): sc-36249-SH, PKC γ shRNA (h) Lentiviral Particles: sc-36248-V and PKC γ shRNA (m) Lentiviral Particles: sc-36249-V.

Molecular Weight of PKC γ : 80 kDa.

STORAGE

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

DATA



PKC γ (C-4): sc-166385. Near-infrared western blot analysis of PKC γ expression in mouse brain (A) and rat brain (B) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

PKC γ (C-4) Alexa Fluor® 488: sc-166385 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing perinuclear region of cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (A). PKC γ (C-4): sc-166385. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic and membrane staining of purkinje cells (B).

SELECT PRODUCT CITATIONS

- Vilar, B., et al. 2013. Alleviating pain hypersensitivity through activation of type 4 metabotropic glutamate receptor. *J. Neurosci.* 33: 18951-18965.
- Wang, H.Y., et al. 2017. PTI-125 binds and reverses an altered conformation of filamin A to reduce Alzheimer's disease pathogenesis. *Neurobiol. Aging* 55: 99-114.
- Stewart, A.N., et al. 2018. Transplantation of mesenchymal stem cells that overexpress NT-3 produce motor improvements without axonal regeneration following complete spinal cord transections in rats. *Brain Res.* 1699: 19-33.
- Surendran, D. 2019. PKC γ and PKC ϵ are differentially activated and modulate neurotoxic signaling pathways during oxygen glucose deprivation in rat cortical slices. *Neurochem. Res.* 44: 2577-2589.
- Yang, N., et al. 2020. Dietary fructose enhances Angiotensin II-stimulated Na transport via activation of PKC α in renal proximal tubules. *Am. J. Physiol. Renal Physiol.* 318: F1513-F1519.
- Bai, L., et al. 2021. Protocatechuic acid attenuates isoproterenol-induced cardiac hypertrophy via downregulation of ROCK1-Sp1-PKC γ axis. *Sci. Rep.* 11: 17343.
- Vargova, I., et al. 2022. Long-term cultures of spinal cord interneurons. *Front. Cell. Neurosci.* 16: 827628.
- Hu, L., et al. 2022. The role of PTEN in primary sensory neurons in processing itch and thermal information in mice. *Cell Rep.* 39: 110724.

RESEARCH USE

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

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