SANTA CRUZ BIOTECHNOLOGY, INC.

PKC γ (A-7): sc-166451

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

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, βI, βII and γ) and novel (n) PKC isoforms (δ, ε, ζ, η, θ, λ/ι, 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 (A-7) 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 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166451 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PKC γ (A-7) 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 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).

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.

Positive Controls: mouse cerebellum extract: sc-2403, mouse brain extract: sc-2253 or rat cerebellum extract: sc-2398.

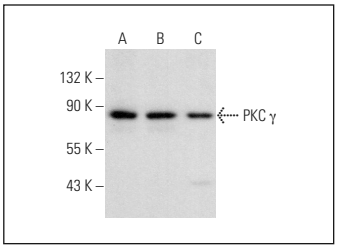
STORAGE

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

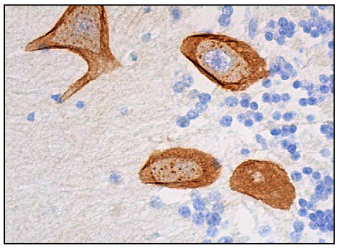
RESEARCH USE

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

DATA



PKC γ (A-7): sc-166451. Western blot analysis of PKC γ expression in mouse brain (**A**), mouse cerebellum (**B**) and rat cerebellum (**C**) tissue extracts.



PKC γ (A-7): sc-166451. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic and membrane staining of Purkinje cells

SELECT PRODUCT CITATIONS

1. Jiang, Y.Q., et al. 2018. Transneuronal downregulation of the premotor cholinergic system after corticospinal tract loss. J. Neurosci. 38: 8329-8344.
2. Jiang, B.C., et al. 2018. Demethylation of G protein-coupled receptor 151 promoter facilitates the binding of Krüppel-like factor 5 and enhances neuropathic pain after nerve injury in mice. J. Neurosci. 38: 10535-10551.
3. Hu, M.L., et al. 2018. Expression pattern of type 3 adenylyl cyclase in rodent dorsal root ganglion and its primary afferent terminals. Neurosci. Lett. 692: 16-22.
4. Sanna, M.D., et al. 2019. μ opioid receptor-triggered Notch-1 activation contributes to morphine tolerance: role of neuron-glia communication. Mol. Neurobiol. 57: 331-345.
5. Li, J., et al. 2020. Nerve injury-induced neuronal PAP-I maintains neuropathic pain by activating spinal microglia. J. Neurosci. 40: 297-310.
6. Zhang, W.W., et al. 2022. Peripheral ablation of type III adenylyl cyclase induces hyperalgesia and eliminates KOR-mediated analgesia in mice. JCI Insight 7: e153191.
7. Hanuscheck, N., et al. 2022. Interleukin-4 receptor signaling modulates neuronal network activity. J. Exp. Med. 219: e20211887.
8. Lee, H.W., et al. 2022. Targeted inhibition of O-linked β-N-acetylglucosamine transferase as a promising therapeutic strategy to restore chemosensitivity and attenuate aggressive tumor traits in chemoresistant urothelial carcinoma of the bladder. Biomedicines 10: 1162.

CONJUGATES

See **PKC γ (C-4): sc-166385** for PKC γ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.