

PKC α (H-7): sc-8393

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 (α , β I, β II, γ , 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.

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.

CHROMOSOMAL LOCATION

Genetic locus: PRKCA (human) mapping to 17q24.2; Prkca (mouse) mapping to 11 E1.

SOURCE

PKC α (H-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 645-672 at the C-terminus of PKC α of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PKC α (H-7) is available conjugated to agarose (sc-8393 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8393 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8393 PE), fluorescein (sc-8393 FITC), Alexa Fluor[®] 488 (sc-8393 AF488), Alexa Fluor[®] 546 (sc-8393 AF546), Alexa Fluor[®] 594 (sc-8393 AF594) or Alexa Fluor[®] 647 (sc-8393 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-8393 AF680) or Alexa Fluor[®] 790 (sc-8393 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-8393 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

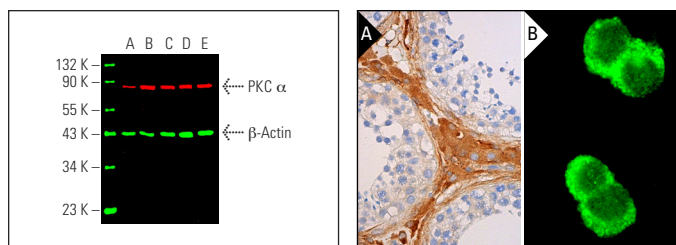
PKC α (H-7) is recommended for detection of PKC α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 α siRNA (h): sc-36243, PKC α siRNA (m): sc-36244, PKC α siRNA (r): sc-108089, PKC α shRNA Plasmid (h): sc-36243-SH, PKC α shRNA Plasmid (m): sc-36244-SH, PKC α shRNA Plasmid (r): sc-108089-SH, PKC α shRNA (h) Lentiviral Particles: sc-36243-V, PKC α shRNA (m) Lentiviral Particles: sc-36244-V and PKC α shRNA (r) Lentiviral Particles: sc-108089-V.

Molecular Weight of PKC α : 80 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Simultaneous direct near-infrared western blot analysis of PKC α expression, detected with PKC α (H-7) Alexa Fluor[®] 790: sc-8393 AF790 and β -Actin expression, detected with β -Actin (C4) Alexa Fluor[®] 680: sc-47778 AF680 in HeLa (A), Jurkat (B), MOLT-4 (C), NIH/3T3 (D) and 3611-RF (E) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Cruz Marker[™] Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor[®] 680: sc-516730.

PKC α (H-7): sc-8393. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of Leydig cell (A). Immunofluorescence staining of methanol-fixed K-562 cells showing cytoplasmic and membrane staining (B).

SELECT PRODUCT CITATIONS

1. Cross, T., et al. 2000. PKC δ is an apoptotic lamin kinase. *Oncogene* 19: 2331-2337.
2. Puente, L.G., et al. 2000. Evidence for protein kinase C-dependent and -independent activation of mitogen-activated protein kinase in T cells: potential role of additional diacylglycerol binding proteins. *J. Immunol.* 165: 6865-6871.
3. Travis, A.M., et al. 2018. Dopamine-dependent sensitization of rod bipolar cells by GABA is conveyed through wide-field amacrine cells. *J. Neurosci.* 38: 723-732.
4. Rosenberg, S., et al. 2018. A recurrent point mutation in PRKCA is a hallmark of chordoid gliomas. *Nat. Commun.* 9: 2371.

RESEARCH USE

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