

PKA α / β / γ cat (G-6): sc-390548

BACKGROUND

The second messenger cyclic AMP (cAMP) mediates diverse cellular responses to external signals such as proliferation, ion transport, regulation of metabolism and gene transcription by activation of cAMP-dependent protein kinases (cAPKs or PKAs). Activation of PKAs occurs when cAMP binds to the two regulatory subunits of the tetrameric PKA holoenzyme, resulting in release of active catalytic subunits. Three catalytic subunits of the PKA holoenzyme exist and are designated PKA α cat, PKA β cat and PKA γ cat, each of which represent specific gene products. PKA α cat and PKA β cat are closely related (93% amino acid sequence similarity), whereas PKA γ cat displays 83% and 79% similarity to PKA α cat and PKA β cat, respectively. Activation of transcription upon elevation of cAMP levels results from translocation of PKA to the nucleus, where it phosphorylates CREB, leading to TFIIIB-TBP1 binding and, ultimately, the linking of phospho-CREB to the Pol II transcription initiation complex.

SOURCE

PKA α / β / γ cat (G-6) is a mouse monoclonal antibody raised against amino acids 231-286 mapping near the C-terminus of PKA α catalytic subunit of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PKA α / β / γ cat (G-6) is available conjugated to agarose (sc-390548 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390548 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390548 PE), fluorescein (sc-390548 FITC), Alexa Fluor[®] 488 (sc-390548 AF488), Alexa Fluor[®] 546 (sc-390548 AF546), Alexa Fluor[®] 594 (sc-390548 AF594) or Alexa Fluor[®] 647 (sc-390548 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390548 AF680) or Alexa Fluor[®] 790 (sc-390548 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PKA α / β / γ cat (G-6) is recommended for detection of PKA α / β cat of mouse, rat and human origin, and PKA γ cat of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PKA α / β / γ cat (G-6) is also recommended for detection of PKA α / β / γ cat in additional species, including equine, canine, bovine and porcine.

Molecular Weight of PKA α / β / γ cat: 40 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, PC-3 cell lysate: sc-2220 or mouse brain extract: sc-2253.

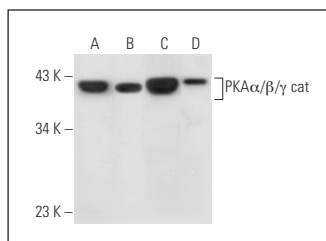
STORAGE

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

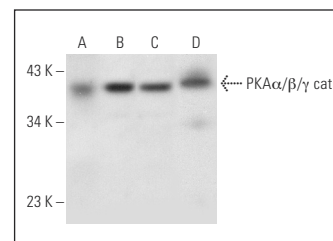
RESEARCH USE

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

DATA



PKA α / β / γ cat (G-6): sc-390548. Western blot analysis of PKA α / β / γ cat expression in NIH/3T3 (A) and PC-3 (B) whole cell lysates and mouse brain (C) and human hippocampus (D) tissue extracts.



PKA α / β / γ cat (G-6): sc-390548. Western blot analysis of PKA α / β / γ cat expression in human testis tissue extract (A) and Hs 181 Tes (B), NTERA-2 cl.D1 (C) and KNRK (D) whole cell lysates.

SELECT PRODUCT CITATIONS

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- Emanuele, M., et al. 2016. Exogenous α -synuclein alters pre- and post-synaptic activity by fragmenting lipid rafts. *EBioMedicine* 7: 191-204.
- Dodge-Kafka, K.L., et al. 2018. Bidirectional regulation of HDAC5 by mAKAP β signalosomes in cardiac myocytes. *J. Mol. Cell. Cardiol.* 118: 13-25.
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- Liu, J., et al. 2020. H3 relaxin protects against calcium oxalate crystal-induced renal inflammatory pyroptosis. *Cell Prolif.* 53: e12902.
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- Wu, Y., et al. 2021. Tetrandrine attenuates left ventricular dysfunction in rats with myocardial infarction. *Exp. Ther. Med.* 21: 119.
- Goshovska, Y.V., et al. 2021. Induction of glutathione synthesis provides cardioprotection regulating NO, AMPK and PPAR α signaling in ischemic rat hearts. *Life* 11: 631.
- Zhao, T., et al. 2021. The effects of Erchen decoction on gut microbiota and lipid metabolism disorders in Zucker diabetic fatty rats. *Front. Pharmacol.* 12: 647529.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.