

PKA α cat (N-18): sc-30666

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 the cAMP-dependent protein kinase A (cAPK or PKA). Activation of PKA occurs when cAMP binds to the two regulatory subunits of the tetrameric PKA holoenzyme resulting in release of active catalytic subunits. Three catalytic (C) subunits have been identified, designated PKA α cat (C α), PKA β cat (C β) and PKA γ cat (C γ). Each subunit represents 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 the transcription factor cAMP response element binding protein (CREB) on Serine 133, which in turn leads to TFIIIB binding to TATA-box-binding protein TBP1, thus linking phospho-CREB to the Pol II transcription initiation complex.

CHROMOSOMAL LOCATION

Genetic locus: PRKACA (human) mapping to 19p13.12; Prkaca (mouse) mapping to 8 C3.

SOURCE

PKA α cat (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PKA α catalytic subunit of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-30666 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKA α cat (N-18) is recommended for detection of PKA α catalytic subunit of human and, to a lesser extent, mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with β and γ subunits.

PKA α cat (N-18) is also recommended for detection of PKA α catalytic subunit in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PKA α cat siRNA (h): sc-36240, PKA α cat siRNA (m): sc-36241, PKA α cat shRNA Plasmid (h): sc-36240-SH, PKA α cat shRNA Plasmid (m): sc-36241-SH, PKA α cat shRNA (h) Lentiviral Particles: sc-36240-V and PKA α cat shRNA (m) Lentiviral Particles: sc-36241-V.

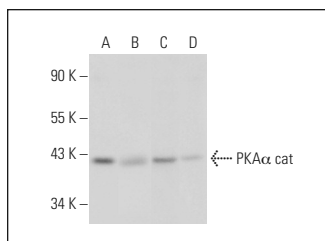
Molecular Weight of PKA α cat: 40 kDa.

Positive Controls: human heart extract: sc-363763, A549 cell lysate: sc-2413 or PC-3 cell lysate: sc-2220.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



PKA α cat (N-18): sc-30666. Western blot analysis of PKA α cat expression in mouse brain (A), rat testis (B) and human heart (C) tissue extracts and U-251-MG whole cell lysate (D).

SELECT PRODUCT CITATIONS

1. Aye, T.T., et al. 2009. Selectivity in enrichment of cAMP-dependent protein kinase regulatory subunits type I and type II and their interactors using modified cAMP affinity resins. *Mol. Cell. Proteomics* 8: 1016-1028.

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.

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **PKA α cat (A-2): sc-28315** or **PKA α cat (C-7): sc-48412**, our highly recommended monoclonal alternatives to PKA α cat (N-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **PKA α cat (A-2): sc-28315**.