

PKA II α reg (M-72): sc-28895

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 (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 C α , C β and C γ , that each represent specific gene products. C α and C β are closely related (93% amino acid sequence similarity), whereas C γ displays 83% and 79% similarity to C α and C β , 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.

REFERENCES

1. Beavo, J.A., et al. 1974. Activation of protein kinase by physiological concentrations of cyclic AMP. Proc. Natl. Acad. Sci. USA 71: 3580-3583.
2. Krebs, E.G., et al. 1980. Phosphorylation and dephosphorylation of enzymes. Annu. Rev. Biochem. 48: 923-959.
3. Maldonado, F., et al. 1988. cAMP-dependent protein kinase, α -catalytic subunit. Nucleic Acids Res. 16: 8189-8190.
4. Gonzalez, G.A., et al. 1989. Cyclic AMP stimulates somatostatin gene transcription by phosphorylation of CREB at serine 133. Cell 59: 675-680.
5. Beebe, S.J., et al. 1990. cAMP-dependent protein kinase, β -catalytic subunit. Mol. Endocrinol. 4: 465-475.
6. Meinkoth, J.L., et al. 1993. Signal transduction through the cAMP-dependent protein kinase. Mol. Cell. Biochem. 127/128: 179-186.
7. Nordheim, A. 1994. CREB takes CBP to tango. Nature 370: 177-178.

CHROMOSOMAL LOCATION

Genetic locus: Prkar2a (mouse) mapping to 9 F2.

SOURCE

PKA II α reg (M-72) is a rabbit polyclonal antibody raised against amino acids 24-95 mapping near the N-terminus of PKA II α reg of mouse origin.

PRODUCT

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

STORAGE

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

PROTOCOLS

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

APPLICATIONS

PKA II α reg (M-72) is recommended for detection of PKA II α reg of 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).

Suitable for use as control antibody for PKA II α reg siRNA (m): sc-39165, PKA II α reg shRNA Plasmid (m): sc-39165-SH and PKA II α reg shRNA (m) Lentiviral Particles: sc-39165-V.

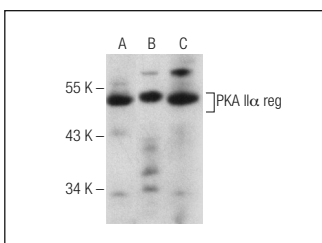
Molecular Weight of PKA II reg: 50 kDa.

Positive Controls: F9 cell lysate: sc-2245, rat testis extract: sc-2400 or mouse testis extract: sc-2405.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PKA II α reg (M-72): sc-28895. Western blot analysis of PKA II α reg expression in F9 whole cell lysate (A) and rat testis (B) and mouse testis (C) tissue extracts.

RESEARCH USE

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

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Try **PKA II α reg (40): sc-136262**, our highly recommended monoclonal alternative to PKA II α reg (M-72).