

PKA I α / β reg (H-90): sc-28893

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. Four different PKA regulatory subunits have been identified, designated I α , I β , II α and II β . The PKA I α reg protein is a tissue-specific extinguisher that downregulates the expression of seven liver genes in heptoma x fibroblast hybrids. Functional null mutations in the gene that codes for PKA I α reg cause Carney complex (CNC). CNC is an autosomal dominant multiple neoplasia syndrome. CNC is associated with a variety of characterized symptoms such as cardiac and other myxomas, spotty skin pigmentation, endocrine tumors and psammomatous melanotic schwannomas.

REFERENCES

1. Beavo, J.A., Bechtel, P.J. and Krebs, E.G. 1974. Activation of protein kinase by physiological concentrations of cyclic AMP. Proc. Natl. Acad. Sci. USA 71: 3580-3583.
2. Krebs, E.G. and Beavo, J.A. 1980. Phosphorylation and dephosphorylation of enzymes. Annu. Rev. Biochem. 48: 923-959.

CHROMOSOMAL LOCATION

Genetic locus: PRKAR1A (human) mapping to 17q24, PRKAR1B (human) mapping to 7p22; Prkar1a (mouse) mapping to 11 E1, Prkar1b (mouse) mapping to 5 G2.

SOURCE

PKA I α / β reg (H-90) is a rabbit polyclonal antibody raised against amino acids 246-335 mapping within an internal region of PKA I α reg 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.

APPLICATIONS

PKA I α / β reg (H-90) is recommended for detection of PKA I α and I β reg 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PKA I α / β reg (H-90) is also recommended for detection of PKA I α and I β reg in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of PKA I α reg: 47 kDa.

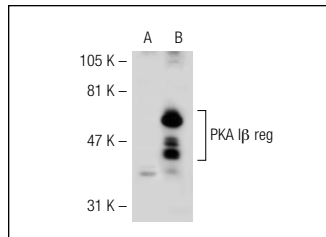
Molecular Weight of PKA I β reg: 51 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, PKA I β reg (h2): 293T Lysate: sc-112159 or SW-13 cell lysate: sc-24778.

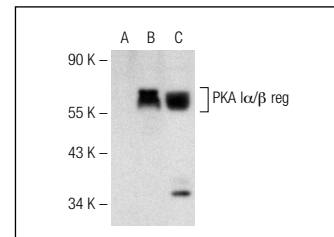
RECOMMENDED SECONDARY REAGENTS

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 I α / β reg (H-90): sc-28893. Western blot analysis of PKA I β reg expression in non-transfected: sc-117752 (A) and human PKA I β reg transfected: sc-112159 (B) 293T whole cell lysates.



PKA I α / β reg (H-90): sc-28893. Western blot analysis of PKA I α / β reg expression in non-transfected 293T: sc-117752 (A), human PKA I α / β reg transfected 293T: sc-177734 (B) and CCRF-CEM (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Vuong, B.Q., Lee, M., Kabir, S., Irimia, C., Macchiarulo, S., McKnight, G.S. and Chaudhuri, J. 2009. Specific recruitment of protein kinase A to the immunoglobulin locus regulates class-switch recombination. Nat. Immunol. 10: 420-426.
2. Wolfertstetter, S., Reinders, J., Schwede, F., Ruth, P., Schinner, E. and Schlossmann, J. 2015. Interaction of cCMP with the cGK, cAK and MAPK kinases in murine tissues. PLoS ONE 10: e0126057.

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.



Try **PKA I α / β reg (B-6): sc-271125** or **PKA I α / β reg (G-6): sc-271446**, our highly recommended monoclonal alternatives to PKA I α / β reg (H-90).