SANTA CRUZ BIOTECHNOLOGY, INC.

# PKA Iα reg (h3): 293T Lysate: sc-170666

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

## 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 Iα, Iβ, IIα and IIβ. The PKA Iα reg protein is a tissue-specific extinguisher that downregulates the expression of seven liver genes in hepa-toma x fibroblast hybrids. Functional null mutations in the gene that codes for PKA Iα 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.
3. Maldonado, F. and Hanks, S.K. 1988. cAMP-dependent protein kinase, α catalytic subunit. Nucleic Acids Res. 16: 8189-8190.
4. Gonzalez, G.A. and Montminy, M.R. 1989. Cyclic AMP stimulates somatostatin gene transcription by phosphorylation of CREB at Serine 133. Cell 59: 675-680.
5. Beebe, S.J., Oyen, O., Sandberg, M., Froysa, A., Hansson, V. and Jahnsen, T. 1990. cAMP-dependent protein kinase, β catalytic subunit. Mol. Endocrinol. 4: 465-475.
6. Schneider, L.H., Watson, C.A., Gibbs, J. and Smith, G.P. 1991. Infra-additivity of combined treatments with selective D1 and D2 receptor antagonists for inhibiting sucrose reinforcement. Brain Res. 550: 122-124.
7. Meinkoth, J.L., Alberts, A.S., Went, W., Fantozzi, D., Taylor, S.S., Hagiwara, M., Montminy, M. and Feramisco, J.R. 1993. Signal transduction through the cAMP-dependent protein kinase. Mol. Cell. Biochem. 127/128: 179-186.
8. Nordheim, A. 1994. CREB takes CBP to tango. Nature 370: 177-178.
9. Kirschner, L.S., Sandrini, F., Monbo, J., Lin, J.P., Carney, J.A. and Stratakis, C.A. 2000. Genetic heterogeneity and spectrum of mutations of the PRKAR1A gene in patients with the carney complex. Hum. Mol. Genet. 9: 3037-3046.


## CHROMOSOMAL LOCATION

Genetic locus: PRKAR1A (human) mapping to 17q24.2.

## PRODUCT

PKA Iα reg (h3): 293T Lysate represents a lysate of human PKA Iα reg transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

PKA Iα reg (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive PKA Iα reg antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.