SANTA CRUZ BIOTECHNOLOGY, INC.

PKA Iα reg (C-14): sc-18800

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 hepatoma 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.

CHROMOSOMAL LOCATION

Genetic locus: PRKAR1A (human) mapping to 17q24.2; Prkar1a (mouse) mapping to 11 E1.

SOURCE

PKA Iα reg (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PKA Iα reg of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-18800 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKA Iα reg (C-14) is recommended for detection of PKA Iα reg of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 Iα reg (C-14) is also recommended for detection of PKA Iα reg in additional species, including canine and avian.

Suitable for use as control antibody for PKA Iα reg siRNA (h): sc-39162, PKA Iα reg siRNA (m): sc-39163, PKA Iα reg shRNA Plasmid (h): sc-39162-SH, PKA Iα reg shRNA Plasmid (m): sc-39163-SH, PKA Iα reg shRNA (h) Lentiviral Particles: sc-39162-V and PKA Iα reg shRNA (m) Lentiviral Particles: sc-39163-V.

Molecular Weight of PKA Iα reg: 43 kDa.

Positive Controls: SW-13 cell lysate: sc-24778 or rat cerebellum extract: sc-2398.

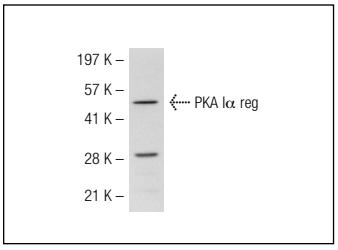
RESEARCH USE

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

STORAGE

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

DATA



PKA Iα reg (C-14): sc-18800. Western blot analysis of PKA Iα reg expression in SW-13 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Griffin, K.J., et al. 2004. Down-regulation of regulatory subunit type 1A of protein kinase A leads to endocrine and other tumors. Cancer Res. 64: 8811-8815.
2. Fernández, S., et al. 2008. Modulation by Insulin-like growth factor I of the phosphatase PTEN in astrocytes. Biochim. Biophys. Acta 1783: 803-812.
3. 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.
4. Waldkirch, E., et al. 2010. Expression of cAMP-dependent protein kinase isoforms in the human prostate: functional significance and relation to PDE4. Urology 76: 515.e8-515.e14.
5. Fernandez, S., et al. 2014. A phosphatase-independent gain-of-function mutation in PTEN triggers aberrant cell growth in astrocytes through an autocrine IGF-1 loop. Oncogene 33: 4114-4122.

PROTOCOLS

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