SANTA CRUZ BIOTECHNOLOGY, INC.

# p-PKA IIβ reg (pS114.20A): sc-293036

## BACKGROUND

The second messenger cyclic AMP 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. One of several regulatory subunits, p-PKA IIβ reg (cAMP-dependent protein kinase type II-β regulatory subunit), also known as PRKAR2B, is a 418 amino acid protein that is phosphorylated by the activated catalytic chain. p-PKA IIβ reg knockout mice exhibit diminished white adipose tissue and were protected against diet-induced obesity and fatty livers, as well as markedly reduced leptin mRNA. Also playing a role in the immune response, p-PKA IIβ reg suppresses CREB transcriptional activity and down-regulates IL-2 production in T lymphocytes.

## CHROMOSOMAL LOCATION

Genetic locus: PRKAR2B (human) mapping to 7q22.3; Prkar2b (mouse) mapping to 12 A3.

## SOURCE

p-PKA IIβ reg (pS114.20A) is a mouse monoclonal antibody raised against a short amino acid sequence containing Ser 114 phosphorylated PKA IIβ reg of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

p-PKA IIβ reg (pS114.20A) is available conjugated to agarose (sc-293036 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-293036 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

## STORAGE

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

## APPLICATIONS

p-PKA IIβ reg (pS114.20A) is recommended for detection of Ser 114 phosphorylated PKA IIβ reg of human origin and correspondingly Ser 112 phosphorylated PKA IIβ reg of mouse and rat 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PKA IIβ reg siRNA (h): sc-39166, PKA IIβ reg siRNA (m): sc-39167, PKA IIβ reg shRNA Plasmid (h): sc-39166-SH, PKA IIβ reg shRNA Plasmid (m): sc-39167-SH, PKA IIβ reg shRNA (h) Lentiviral Particles: sc-39166-V and PKA IIβ reg shRNA (m) Lentiviral Particles: sc-39167-V.

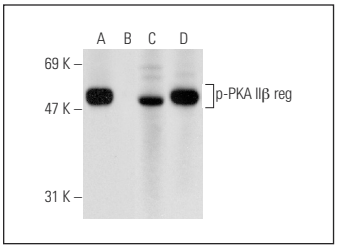
Molecular Weight of p-PKA IIβ reg: 53 kDa.

Positive Controls: rat brain extract: sc-2392.

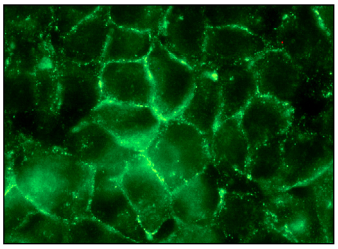
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




Western blot analysis of PKA IIβ reg phosphorylation in untreated (**A**,**C**), and lambda protein phosphatase (sc-200312A) treated (**B**,**D**) rat brain tissue extracts. Antibodies tested include p-PKA IIβ reg (pS114.20A): sc-293036 (**A**,**B**) and PKA IIβ reg (M-18): sc-18804 (**C**,**D**).



p-PKA IIβ reg (pS114.20A): sc-293036. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS


1. Wu, X., et al. 2017. Fucoidan elevates surface organic cation transporter 2 expression via upregulation of protein kinase A in uric acid nephropathy. Exp. Ther. Med. 14: 4153-4159.
2. Lou, J., et al. 2018. Cytoprotective effect of taurine against hydrogen peroxide-induced oxidative stress in UMR-106 cells through the Wnt/β-catenin signaling pathway. Biomol. Ther. 26: 584-590.


## RESEARCH USE

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

## PROTOCOLS

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