

PKA II β reg (C-16): sc-18803

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 II β 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 II β 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 II β reg suppresses CREB transcriptional activity and down-regulates IL-2 production in T-lymphocytes.

REFERENCES

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3. Solberg, R., et al. 1992. Mapping of the regulatory subunits RI β and RII β of cAMP-dependent protein kinase genes on human chromosome 7. *Genomics* 14: 63-69.
4. Adams, M.R., et al. 1997. Loss of haloperidol induced gene expression and catalepsy in protein kinase A-deficient mice. *Proc. Natl. Acad. Sci. USA* 94: 12157-12161.
5. Elliott, M.R., et al. 2004. Down-regulation of IL-2 production in T lymphocytes by phosphorylated protein kinase A-RII β . *J. Immunol.* 172: 7804-7812.
6. Fischer, Q.S., et al. 2004. Requirement for the RII β isoform of PKA, but not calcium-stimulated adenylyl cyclase, in visual cortical plasticity. *J. Neurosci.* 24: 9049-9058.
7. Inan, M., et al. 2006. Barrel map development relies on protein kinase A regulatory subunit II β -mediated cAMP signaling. *J. Neurosci.* 26: 4338-4349.

CHROMOSOMAL LOCATION

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

SOURCE

PKA II β reg (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PKA II β reg of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-18803 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKA II β reg (C-16) is recommended for detection of PKA II β reg of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 II β reg (C-16) is also recommended for detection of PKA II β reg in additional species, including bovine.

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

Molecular Weight of PKA II β reg: 53 kDa.

Positive Controls: F9 cell lysate: sc-2245 or rat testes extract: sc-2400.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.



Try **PKA II β reg (C-2): sc-376778**, our highly recommended monoclonal alternative to PKA II β reg (C-16).