

PKA II β reg (A-20): sc-23792

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

1. Wainwright, B., et al. 1987. A human regulatory subunit of type II cAMP-dependent protein kinase localized by its linkage relationship to several cloned chromosome 7q markers. *Cytogenet. Cell Genet.* 45: 237-239.
2. Levy, F.O., et al. 1988. Molecular cloning, complementary deoxyribonucleic acid structure and predicted full-length amino acid sequence of the hormone-inducible regulatory subunit of 3'-5'-cyclic adenosine monophosphate-dependent protein kinase from human testis. *Mol. Endocrinol.* 2: 1364-1373.
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.

CHROMOSOMAL LOCATION

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

SOURCE

PKA II β reg (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PKA II β 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.

Blocking peptide available for competition studies, sc-23792 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PKA II β reg (A-20) 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), 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).

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.

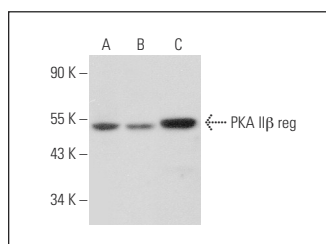
Molecular Weight of PKA II β reg: 53 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, IMR-32 cell lysate: sc-2409 or K-562 whole cell lysate: sc-2203.

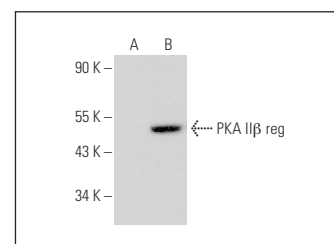
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



PKA II β reg (A-20): sc-23792. Western blot analysis of PKA II β reg expression in IMR-32 (A), NTERA-2 cl.D1 (B) and U-251-MG (C) whole cell lysates.



PKA II β reg (A-20): sc-23792. Western blot analysis of PKA II β reg expression in K-562 whole cell lysate (A) and mouse brain tissue extract (B).

STORAGE

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



Try **PKA II β reg (C-2): sc-376778**, our highly recommended monoclonal alternative to PKA II β reg (A-20).