

PKA II α reg (C-20): sc-908

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. Three catalytic (C) subunits have been identified, designated C α , C β and C γ , that each represent specific gene products. C α and C β are closely related (93% amino acid sequence similarity), whereas C γ displays 83% and 79% similarity to C α and C β , respectively. Activation of transcription upon elevation of cAMP levels results from translocation of PKA to the nucleus where it phosphorylates the transcription factor cAMP response element binding protein (CREB) on serine 133 which in turn leads to TFIIIB binding to TATA-box-binding protein TBP1, thus linking phospho-CREB to the pol II transcription initiation complex.

CHROMOSOMAL LOCATION

Genetic locus: PRKAR2A (human) mapping to 3p21.31, PRKAR2B (human) mapping to 7q22; Prkar2a (mouse) mapping to 9 F2, Prkar2b (mouse) mapping to 12 B1.

SOURCE

PKA II α reg (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PKA II α 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-908 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKA II α reg (C-20) is recommended for detection of PKA II α , and to a lesser extent, PKA II β regulatory subunit of human and, to a lesser extent, mouse and rat 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).

Molecular Weight of PKA II α reg: 43 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

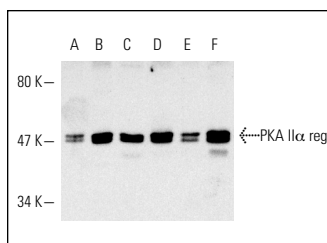
PROTOCOLS

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

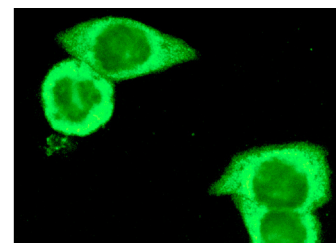
RESEARCH USE

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

DATA



PKA II α reg (C-20): sc-908. Western blot analysis of PKA II α regulatory subunit expression in A-431 (A), HeLa (B), MCF7 (C), PC-3 (D), A549 (E) and SK-BR-3 (F) whole cell lysates.



PKA II α reg (C-20): sc-908. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

- Zakhary, D.R., et al. 1999. Protein kinase A (PKA)-dependent Troponin-I phosphorylation and PKA regulatory subunits are decreased in human dilated cardiomyopathy. *Circulation* 99: 505-510.
- Kim, T.K., et al. 2007. Direct transcriptional activation of promyelocytic leukemia protein by IFN regulatory factor 3 induces the p53-dependent growth inhibition of cancer cells. *Cancer Res* 67: 11133-11140.
- Mavillard, F., et al. 2010. PKA-mediated Golgi remodeling during cAMP signal transmission. *Traffic* 11: 90-109.
- Mucignat-Caretta, C., et al. 2010. Protein kinase A regulatory subunit distribution in medulloblastoma. *BMC Cancer* 10: 141.
- Karolczak-Bayatti, M., et al. 2011. Epigenetic modulation of the protein kinase A RII (PRKAR2A) gene by histone deacetylases 1 and 2 in human smooth muscle cells. *J. Cell. Mol. Med.* 15: 94-108.
- Mattaloni, S.M., et al. 2012. AKAP350 Is involved in the development of apical "canalicular" structures in hepatic cells HepG2. *J. Cell. Physiol.* 227: 160-171.
- Radeva, M.Y., et al. 2014. PKA compartmentalization via AKAP220 and AKAP12 contributes to endothelial barrier regulation. *PLoS ONE* 9: e106733.
- Liu, Q., et al. 2015. cAMP-dependent protein kinase A (PKA)-mediated c-Myc degradation is dependent on the relative proportion of PKA-I and PKA-II isozymes. *Mol. Pharmacol.* 88: 469-476.

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