

PP1 α (FL-18): sc-443

BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. In general, the protein phosphatase (PP) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit and a catalytic subunit. Four major families of protein phosphatase catalytic subunit have been identified, designated PP1, PP2A, PP2B (calcineurin) and PP2C. An additional protein phosphatase catalytic subunit, PPX (also known as PP4) is a putative member of a novel PP family. The PP1 family is comprised of subfamily members PP1 α , PP1 β and PP1 γ , which are MgATP-dependent enzymes. PP1 inactivity is maintained through its association with the inhibitory protein NIPP-1 (nuclear inhibitor of PP1). Phosphorylation of NIPP-1 by cAMP-PK or casein kinase II results in the release of active PP1.

CHROMOSOMAL LOCATION

Genetic locus: PPP1CA (human) mapping to 11q13.2; Ppp1ca (mouse) mapping to 19 A.

SOURCE

PP1 α (FL-18) is a rabbit polyclonal antibody raised against amino acids 1-18 representing full length PP1 α 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.

Available as agarose conjugate for immunoprecipitation, sc-443 AC, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

PP1 α (FL-18) is recommended for detection of PP1 α 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).

PP1 α (FL-18) is also recommended for detection of PP1 α in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for PP1 α siRNA (h): sc-36299, PP1 α siRNA (m): sc-36300, PP1 α shRNA Plasmid (h): sc-36299-SH, PP1 α shRNA Plasmid (m): sc-36300-SH, PP1 α shRNA (h) Lentiviral Particles: sc-36299-V and PP1 α shRNA (m) Lentiviral Particles: sc-36300-V.

Molecular Weight of PP1 α : 36 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, PP1 α (m): 293T Lysate: sc-122713 or Jurkat whole cell lysate: sc-2204.

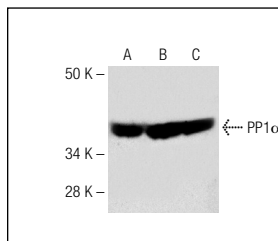
STORAGE

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

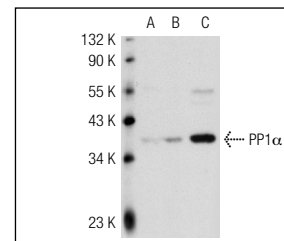
RESEARCH USE

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

DATA



PP1 α (FL-18): sc-443. Western blot analysis of PP1 α expression in KNRK (A), Jurkat (B) and NIH/3T3 (C) whole cell lysates.



PP1 α (FL-18): sc-443. Western blot analysis of PP1 α expression in non-transfected 293T: sc-117752 (A), mouse PP1 α transfected 293T: sc-122713 (B) and NIH/3T3 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

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- Roth, U., et al. 2010. Differential expression proteomics of human colorectal cancer based on a syngeneic cellular model for the progression of adenoma to carcinoma. *Proteomics* 10: 194-202.
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- Wang, R. and Sperry, A.O. 2011. PP1 forms an active complex with TLRR (Irrc67), a putative PP1 regulatory subunit, during the early stages of spermiogenesis in mice. *PLoS ONE* 6: e21767.
- Hutchinson, J.A., et al. 2011. Regulation of ribosomal protein S6 phosphorylation by casein kinase 1 and protein phosphatase 1. *J. Biol. Chem.* 286: 8688-8696.
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Try **PP1 (E-9): sc-7482** or **PP1 α (G-4): sc-271762**, our highly recommended monoclonal alternatives to PP1 α (FL-18). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **PP1 (E-9): sc-7482**.