

PP4R1 (E-16): sc-65183

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 serine/threonine 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. Protein phosphatase 4 (PP4) is comprised of different regulatory subunits that exhibit mutually exclusive interactions with the PP4 catalytic subunit, PPX. PP4R1, also known as PPP4R1 or PP4(Rmeg), is regulatory subunit 1 of protein phosphatase 4. It is ubiquitously expressed and can form a binary complex with PPX that negatively regulates the activity of HDAC3. PP4 is required for cell growth, nucleation and the stabilization of microtubules during cell division. This suggests that PP4R1 participates in the regulation of mitosis.

REFERENCES

1. Kloeker, S. and Wadzinski, B.E. 1999. Purification and identification of a novel subunit of protein serine/threonine phosphatase 4. *J. Biol. Chem.* 274: 5339-5347.
2. Hastie, C.J., et al. 2000. A novel 50 kDa protein forms complexes with protein phosphatase 4 and is located at centrosomal microtubule organizing centres. *Biochem. J.* 3: 845-855.
3. Wada, T., et al. 2001. Cloning and characterization of a novel subunit of protein serine/threonine phosphatase 4 from mesangial cells. *J. Am. Soc. Nephrol.* 12: 2601-2608.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604908. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Yeh, P.Y., et al. 2004. Suppression of MEK/ERK signaling pathway enhances cisplatin-induced NFκB activation by protein phosphatase 4-mediated NFκB p65 Thr dephosphorylation. *J. Biol. Chem.* 279: 26143-26148.

CHROMOSOMAL LOCATION

Genetic locus: PPP4R1 (human) mapping to 18p11.22; Ppp4r1 (mouse) mapping to 17 E1.1.

SOURCE

PP4R1 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PP4R1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-65183 P, (100 µg 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

PP4R1 (E-16) is recommended for detection of PP4R1 of mouse, rat and human 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)], 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).

PP4R1 (E-16) is also recommended for detection of PP4R1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PP4R1 siRNA (h): sc-62848, PP4R1 siRNA (m): sc-62849, PP4R1 shRNA Plasmid (h): sc-62848-SH, PP4R1 shRNA Plasmid (m): sc-62849-SH, PP4R1 shRNA (h) Lentiviral Particles: sc-62848-V and PP4R1 shRNA (m) Lentiviral Particles: sc-62849-V.

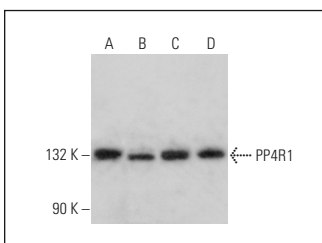
Molecular Weight of PP4R1 doublet: 120/125 kDa.

Positive Controls: JAR cell lysate: sc-2276, COLO 205 whole cell lysate: sc-364177 or Jurkat whole cell lysate: sc-2204.

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



PP4R1 (E-16): sc-65183. Western blot analysis of PP4R1 expression in JAR (A), NIH/3T3 (B), COLO 205 (C) and Jurkat (D) whole cell lysates.

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.