

PP4R2 (P-17): sc-100101

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. PP4R2 (serine/threonine-protein phosphatase 4 regulatory subunit 2) is a 417 amino acid centrosomal protein that regulates PPX, a phosphatase that is involved in many intracellular events. Specifically, PP4R2 regulates PPX at centrosomal microtubule organizing centers, where it targets PPX to this location. PP4R2 interacts with the SMN complex, which leads to the enhancement of temporal localization of small nuclear ribonucleoproteins (snRNPs), suggesting that PP4R2 is involved in the maturation of spliceosomal snRNPs. A complex formed by PPX, PP4R3A and PP4R2 dephosphorylates Histone H2A.X on Ser140. There are three isoforms of PP4R2 that are produced as a result of alternative splicing events.

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.* 347: 845-855.
3. Carnegie, G.K., et al. 2003. Protein phosphatase 4 interacts with the survival of motor neurons complex and enhances the temporal localisation of snRNPs. *J. Cell Sci.* 116: 1905-1913.
4. Petek, E., et al. 2003. Molecular characterisation of a 15 Mb constitutional *de novo* interstitial deletion of chromosome 3p in a boy with developmental delay and congenital anomalies. *J. Hum. Genet.* 48: 283-287.
5. Gingras, A.C., et al. 2005. A novel, evolutionarily conserved protein phosphatase complex involved in cisplatin sensitivity. *Mol. Cell. Proteomics* 4: 1725-1740.
6. Mendoza, M.C., et al. 2007. MEK1 and protein phosphatase 4 coordinate Dictyostelium development and chemotaxis. *Mol. Cell. Biol.* 27: 3817-3827.

CHROMOSOMAL LOCATION

Genetic locus: PPP4R2 (human) mapping to 3p13; Ppp4r2 (mouse) mapping to 6 D3.

SOURCE

PP4R2 (P-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PP4R2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-100101 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PP4R2 (P-17) is recommended for detection of PP4R2 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).

PP4R2 (P-17) is also recommended for detection of PP4R2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PP4R2 siRNA (h): sc-78526, PP4R2 siRNA (m): sc-152398, PP4R2 shRNA Plasmid (h): sc-78526-SH, PP4R2 shRNA Plasmid (m): sc-152398-SH, PP4R2 shRNA (h) Lentiviral Particles: sc-78526-V and PP4R2 shRNA (m) Lentiviral Particles: sc-152398-V.

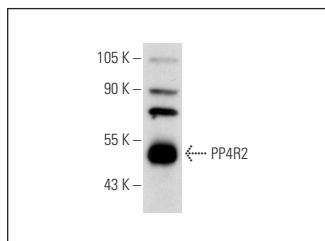
Molecular Weight of PP4R2: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PP4R2 (P-17): sc-100101. Western blot analysis of PP4R2 expression in HeLa whole cell lysate.

STORAGE

Store at 4° 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.

PROTOCOLS

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