

## PP5 (3): sc-136046

### 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 and PP2C. An additional protein phosphatase catalytic subunit, PPX (also known as PP4), is a putative member of a novel PP family. PP5, also designated protein phosphatase T (PP-T, PPP5C), a predominantly nuclear protein which belongs to the PPP phosphatase family and the PP-T subfamily, interacts with Cdc16 and Cdc27. It dephosphorylates serine residues of skeletal muscle phosphorylase and Histone H1 and may be involved in mitosis and RNA biogenesis regulation.

### REFERENCES

1. Cohen, P.T. 1993. Important roles for novel protein phosphatases dephosphorylating serine and threonine residues. *Biochem. Soc. Trans.* 21: 884-888.
2. Hendrix, P., et al. 1993. Structure and expression of a 72 kDa regulatory subunit of protein phosphatase 2A. Evidence for different size forms produced by alternative splicing. *J. Biol. Chem.* 268: 15267-15276.
3. Mumby, M.C., et al. 1993. Protein serine/threonine phosphatases: structure, regulation, and functions in cell growth. *Physiol. Rev.* 73: 673-699.
4. Okubo, S., et al. 1994. A regulatory subunit of smooth muscle myosin bound phosphatase. *Biochem. Biophys. Res. Commun.* 200: 429-434.
5. Wera, S., et al. 1995. Serine/threonine protein phosphatases. *Biochem. J.* 311: 17-29.
6. Xu, X., et al. 1996. Chromosomal localization and 5' sequence of the human protein serine/threonine phosphatase 5' gene. *Biochem. Biophys. Res. Commun.* 218: 514-517.

### CHROMOSOMAL LOCATION

Genetic locus: PPP5C (human) mapping to 19q13.32; Ppp5c (mouse) mapping to 7 A2.

### SOURCE

PP5 (3) is a mouse monoclonal antibody raised against amino acids 36-238 of PP5 of rat origin.

### PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### STORAGE

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

### APPLICATIONS

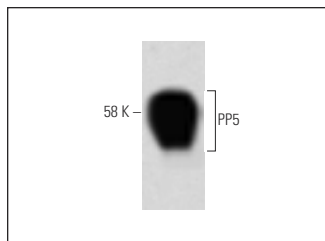
PP5 (3) is recommended for detection of PP5 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PP5 siRNA (h): sc-44602, PP5 siRNA (m): sc-44603, PP5 shRNA Plasmid (h): sc-44602-SH, PP5 shRNA Plasmid (m): sc-44603-SH, PP5 shRNA (h) Lentiviral Particles: sc-44602-V and PP5 shRNA (m) Lentiviral Particles: sc-44603-V.

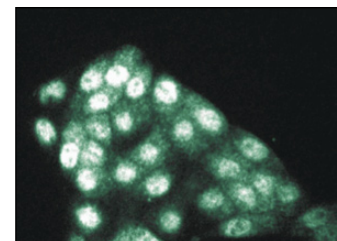
Molecular Weight of PP5: 57 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, Jurkat whole cell lysate: sc-2204 or rat brain extract: sc-2392.

### DATA



PP5 (3): sc-136046. Western blot analysis of PP5 expression in rat cerebrum tissue extract.



PP5 (3): sc-136046. Immunofluorescence staining of MDCK cells showing nuclear localization.

### SELECT PRODUCT CITATIONS

1. Goichon, A., et al. 2015. Enteral delivery of proteins enhances the expression of proteins involved in the cytoskeleton and protein biosynthesis in human duodenal mucosa. *Am. J. Clin. Nutr.* 102: 359-367.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.