

## PP1 $\gamma$ (2F2-A3-H10): sc-517563

### 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 $\alpha$ , PP1 $\beta$  and PP1 $\gamma$ , 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.

### 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. *Phys. Rev.* 73: 673-699.
4. Okubo, S., et al. 1994. A regulatory subunit of smooth muscle myosin bound phosphatase. *Biochem. Biophys. Res. Comm.* 200: 429-434.
5. Wera, S. et al. 1995. Serine/threonine protein phosphatases. *Biochem. J.* 311: 17-29.
6. Van Eynde, A., et al. 1995. Molecular cloning of NIPP-1, a nuclear inhibitor of protein phosphatase-1, reveals homology with polypeptides involved in RNA processing. *J. Biol. Chem.* 270: 28068-28074.

### CHROMOSOMAL LOCATION

Genetic locus: PPP1CC (human) mapping to 12q24.11.

### SOURCE

PP1 $\gamma$  (2F2-A3-H10) is a mouse monoclonal antibody raised against recombinant PP1 $\gamma$  protein fragments of human origin.

### PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 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.

### RESEARCH USE

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

### APPLICATIONS

PP1 $\gamma$  (2F2-A3-H10) is recommended for detection of PP1 $\gamma$  of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for PP1 $\gamma$  siRNA (h): sc-36297, PP1 $\gamma$  shRNA Plasmid (h): sc-36297-SH and PP1 $\gamma$  shRNA (h) Lentiviral Particles: sc-36297-V.

Molecular Weight of PP1 $\gamma$ : 35 kDa.

### PROTOCOLS

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