SANTA CRUZ BIOTECHNOLOGY, INC.

# PP1γ (AP-03): sc-517354

## 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 PP1α, PP1β and PP1γ, 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. 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. 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

PP1γ (AP-03) is a mouse monoclonal antibody raised against a recombinant protein corresponding to PP1γ of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_{2b}$ 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.

## APPLICATIONS

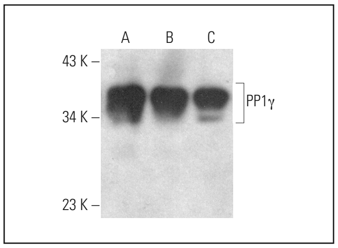
PP1γ (AP-03) is recommended for detection of PP1γ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PP1γ siRNA (h): sc-36297, PP1γ shRNA Plasmid (h): sc-36297-SH and PP1γ shRNA (h) Lentiviral Particles: sc-36297-V.

Molecular Weight of PP1γ: 35 kDa.

Positive Controls: HISM cell lysate: sc-2229, HEK293T whole cell lysate: sc-45137 or Jurkat whole cell lysate: sc-2204.

## DATA




PP1γ (AP-03): sc-517354. Western blot analysis of PP1γ expression in HEK293T (**A**), Jurkat (**B**) and HISM (**C**) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Jerabkova, K., et al. 2020. Deubiquitylase UCHL3 regulates bi-orientation and segregation of chromosomes during mitosis. FASEB J. E-published.

## RESEARCH USE

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

## PROTOCOLS

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