SANTA CRUZ BIOTECHNOLOGY, INC.

PP1β (N-19): sc-6107

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.

CHROMOSOMAL LOCATION

Genetic locus: PPP1CB (human) mapping to 2p23.2; Ppp1cb (mouse) mapping to 5 B1.

SOURCE

PP1β (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PP1β 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-6107 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

PP1β (N-19) is recommended for detection of PP1β 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). PP1β (N-19) is also recommended for detection of PP1β in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for PP1β siRNA (h): sc-36295, PP1β siRNA (m): sc-36296, PP1β shRNA Plasmid (h): sc-36295-SH, PP1β shRNA Plasmid (m): sc-36296-SH, PP1β shRNA (h) Lentiviral Particles: sc-36295-V and PP1β shRNA (m) Lentiviral Particles: sc-36296-V.

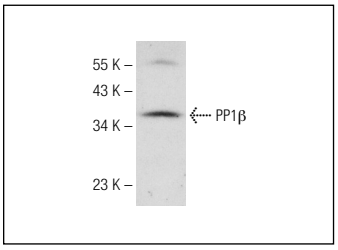
Molecular Weight of PP1β: 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-673 cell lysate: sc-2414 or L8 cell lysate: sc-3807.

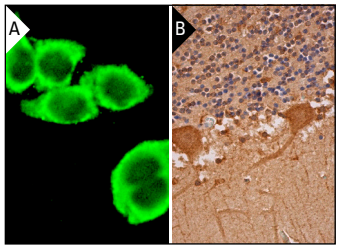
STORAGE

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

DATA



PP1β (N-19): sc-6107. Western blot analysis of PP1β expression in HeLa whole cell lysate.



PP1β (N-19): sc-6107. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear and cytoplasmic staining of Purkinje cells, cells in granular layer and cells in molecular layer (**B**).

SELECT PRODUCT CITATIONS

1. Patel, K.G., et al. 2001. Myr 8, a novel unconventional myosin expressed during brain development associates with the protein phosphatase catalytic subunits 1α and 1γ1. J. Neurosci. 21: 7954-7968.
2. Ayon, R., et al. 2009. Complex phosphatase regulation of Ca^{2+}-activated Cl^- currents in pulmonary arterial smooth muscle cells. J. Biol. Chem. 284: 32507-32521.
3. Zhang, F., et al. 2010. The African swine fever virus DP71L protein recruits the protein phosphatase 1 catalytic subunit to dephosphorylate eIF2α and inhibits CHOP induction but is dispensable for these activities during virus infection. J. Virol. 84: 10681-10689.
4. Canals, D., et al. 2012. Protein phosphatase 1α mediates ceramide-induced ERM protein dephosphorylation: a novel mechanism independent of phosphatidylinositol 4,5-biphosphate (PIP2) and myosin/ERM phosphatase. J. Biol. Chem. 287: 10145-10155.

MONOS Satisfaction Guaranteed

Try **PP1β (A-6): sc-365678** or **PP1β (C-5): sc-373782**, our highly recommended monoclonal alternatives to PP1β (N-19).