

PP1 β (D-11): sc-377125

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 α , PP1 β and PP1 γ , 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

PP1 β (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-31 at the N-terminus of PP1 β of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377125 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PP1 β (D-11) is recommended for detection of PP1 β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

PP1 β (D-11) is also recommended for detection of PP1 β in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for PP1 β siRNA (h): sc-36295, PP1 β siRNA (m): sc-36296, PP1 β shRNA Plasmid (h): sc-36295-SH, PP1 β shRNA Plasmid (m): sc-36296-SH, PP1 β shRNA (h) Lentiviral Particles: sc-36295-V and PP1 β shRNA (m) Lentiviral Particles: sc-36296-V.

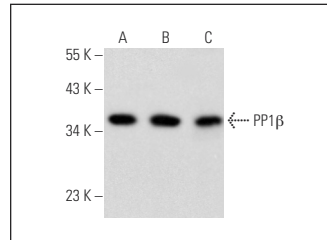
Molecular Weight of PP1 β : 36 kDa.

Positive Controls: A549 cell lysate: sc-2413, MDA-MB-231 cell lysate: sc-2232 or mouse brain extract: sc-2253.

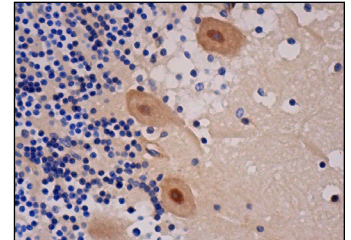
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PP1 β (D-11): sc-377125. Western blot analysis of PP1 β expression in A549 (A) and MDA-MB-231 (B) whole cell lysates and mouse brain tissue extract (C).



PP1 β (D-11): sc-377125. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear and cytoplasmic staining of Purkinje cells.

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 for detailed protocols and support products.



See **PP1 (E-9): sc-7482** for PP1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.