**PP1 (E-9): sc-7482**

**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 inhibitor 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.

**SOURCE**

PP1 (E-9) is a mouse monoclonal antibody raised against full length phosphatase PP1α of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2b, kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PP1 (E-9) is available conjugated to agarose (sc-7482 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7482 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7482 PE), fluorescein (sc-7482 FITC), Alexa Fluor® 488 (sc-7482 AF488), Alexa Fluor® 546 (sc-7482 AF546), Alexa Fluor® 594 (sc-7482 AF594) or Alexa Fluor® 647 (sc-7482 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either HRP (sc-7482 HRP), 200 µg/ml, for WB, IHC(P) and FCM; to HRP (sc-7482 HRP), 200 µg/ml, for WB, IHC(P) and FCM; to HRP (sc-7482 HRP), 200 µg/ml, for WB, IHC(P) and FCM; to HRP, 200 µg/ml, for WB, IHC(P) and FCM.

**APPLICATIONS**

PP1 (E-9) is recommended for detection for PP1 family catalytic subunits 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).

PP1 (E-9) is also recommended for detection of PP1 family catalytic subunits in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for pan PP1 siRNA (h): sc-43545, pan PP1 siRNA (m): -sc-43535, pan PP1 shRNA Plasmid (h): -sc-43535-5, pan PP1 shRNA Plasmid (m): -sc-43533-5, pan PP1 shRNA (h) Lentiviral Particles: sc-43545-V and pan PP1 shRNA (m) Lentiviral Particles: sc-43533-V.

Molecular Weight of PP1: 36 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, KNRK whole cell lysate: sc-2214 or MDA-MB-231 cell lysate: sc-2232.

**STORAGE**

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

**DATA**

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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