

PPP1A Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1352a**Specification**

PPP1A Antibody - Product Information

Application	WB, FC
Primary Accession	P62136
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	38kDa KDa

Description

The protein encoded by this gene is one of the three catalytic subunits of protein phosphatase 1 (PP1). PP1 is a serine/threonine specific protein phosphatase known to be involved in the regulation of a variety of cellular processes, such as cell division, glycogen metabolism, muscle contractility, protein synthesis, and HIV-1 viral transcription. Increased PP1 activity has been observed in the end stage of heart failure. Studies in both human and mice suggest that PP1 is an important regulator of cardiac function. Mouse studies also suggest that PP1 functions as a suppressor of learning and memory. Three alternatively spliced transcript variants encoding different isoforms have been found for this gene.

Immunogen

Purified recombinant fragment of human PPP1A expressed in E. Coli.

Formulation

Ascitic fluid containing 0.03% sodium azide.

PPP1A Antibody - Additional Information

Gene ID 5499

Other Names

Serine/threonine-protein phosphatase PP1-alpha catalytic subunit, PP-1A, 3.1.3.16, PPP1CA, PPP1A

Dilution

WB~~1/500 - 1/2000

FC~~1:200~~400

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

PPP1A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PPP1A Antibody - Protein Information

Name PPP1CA

Synonyms PPP1A

Function

Protein phosphatase that associates with over 200 regulatory proteins to form highly specific holoenzymes which dephosphorylate hundreds of biological targets. Protein phosphatase 1 (PP1) is essential for cell division, and participates in the regulation of glycogen metabolism, muscle contractility and protein synthesis. Involved in regulation of ionic conductances and long-term synaptic plasticity. May play an important role in dephosphorylating substrates such as the postsynaptic density-associated Ca(2+)/calmodulin dependent protein kinase II. Component of the PTW/PP1 phosphatase complex, which plays a role in the control of chromatin structure and cell cycle progression during the transition from mitosis into interphase. Regulates NEK2 function in terms of kinase activity and centrosome number and splitting, both in the presence and absence of radiation- induced DNA damage. Regulator of neural tube and optic fissure closure, and enteric neural crest cell (ENCCs) migration during development. In balance with CSNK1D and CSNK1E, determines the circadian period length, through the regulation of the speed and rhythmicity of PER1 and PER2 phosphorylation. May dephosphorylate CSNK1D and CSNK1E. Dephosphorylates the 'Ser-418' residue of FOXP3 in regulatory T-cells (Treg) from patients with rheumatoid arthritis, thereby inactivating FOXP3 and rendering Treg cells functionally defective (PubMed:23396208). Dephosphorylates CENPA (PubMed:25556658). Dephosphorylates the 'Ser-139' residue of ATG16L1 causing dissociation of ATG12-ATG5-ATG16L1 complex, thereby inhibiting autophagy (PubMed:26083323).

Cellular Location

Cytoplasm. Nucleus. Nucleus, nucleoplasm. Nucleus, nucleolus Note=Primarily nuclear and largely excluded from the nucleolus. Highly mobile in cells and can be relocalized through interaction with targeting subunits. NOM1 plays a role in targeting this protein to the nucleolus. In the presence of PPP1R8 relocalizes from the nucleus to nuclear speckles. Shuttles toward the cytosol during infection with VEEV (PubMed:29769351).

PPP1A Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PPP1A Antibody - Images



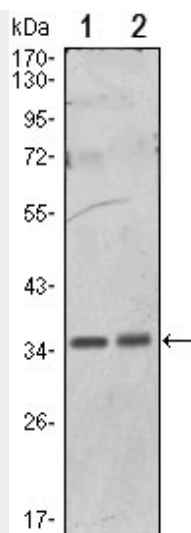


Figure 1: Western blot analysis using PPP1A mouse mAb against Hela (1) and NIH/3T3 (2) cell lysate.

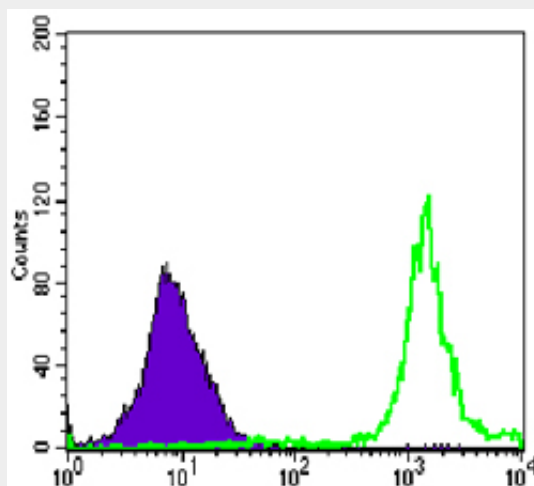


Figure 2: Flow cytometric analysis of Jurkat cells using anti-PARP mAb (green) and negative control (purple).

PPP1A Antibody - References

1. EMBO J. 2007 Mar 21;26(6):1511-21. 2. J Biol Chem. 2007 Jun 15;282(24):17806-15. 3. Mol Cell. 2007 Jul 20;27(2):262-74.