10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PPP1A Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52704

Specification

PPP1A Antibody - Product Information

Application	**WB, ICC**
Primary Accession	P62136
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**37 KDa**

PPP1A Antibody - Additional Information

Gene ID 5499

Other Names
Alpha isoform serine threonine protein phosphatase PP1alpha 1 catalytic subunit; Catalytic subunit;EC 3.1.3.16;MGC15877;MGC1674;PP 1A;PP-1A;PP1A;PP1A_HUMAN;PP1alpha;PP2C ALPHA;PP2CA;Ppp1ca;Protein Phosphatase 2C Alpha Isoform;Serine threonine protein phosphatase PP1 alpha catalytic subunit;Serine threonine protein phosphatase PP1 alpha catalytic subunit protein phosphatase 1;Serine/threonine-protein phosphatase PP1-alpha catalytic subunit.

Dilution
WB~~1:1000
ICC~~1:50

Format
Purified mouse monoclonal in buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.09% (W/V) sodium azide, 50%,glycerol

Storage
Store at -20 °C.Stable for 12 months from date of receipt

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).

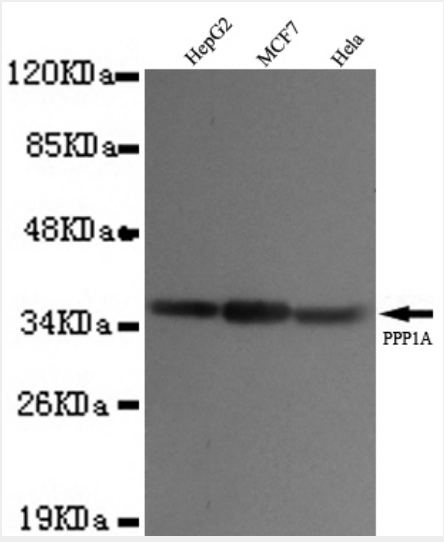
Cellular Location
Cytoplasm. Nucleus. Nucleus, nucleoplasm. Nucleus, nucleolus Note=Primarily nuclear and largely excluded from the nucleolus. Highly mobile in cells and can be relocalized through interaction with targeting subunits. NOM1 plays a role in targeting this protein to the nucleolus. In the 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.

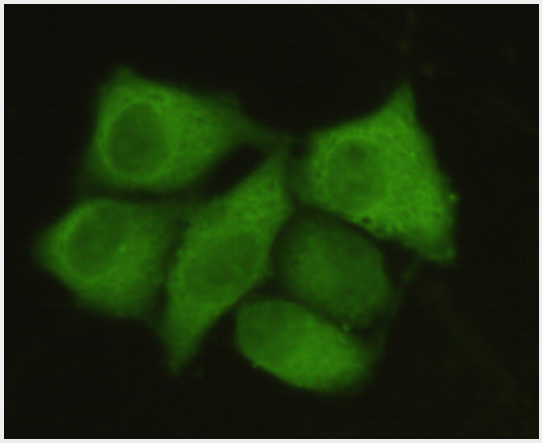
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PPP1A Antibody - Images



10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Western blot detection of PPP1A in HepG2,MCF7 and Hela cell lysates using PPP1A mouse mAb (1:1000 diluted).Predicted band size:37KDa.Observed band size:37KDa.



Immunocytochemistry of HeLa cells using anti-PPP1A mouse mAb diluted 1:50.

PPP1A Antibody - Background

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.

PPP1A Antibody - References

Song Q.,et al.Gene 129:291-295(1993).
Durfee T.,et al.Genes Dev. 7:555-569(1993).
Tung L.,et al.Submitted (APR-1991) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Kalnine N.,et al.Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.