10320 Camino Santa Fe, Suite G
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Tel: 858.875.1900 Fax: 858.875.1999

PPP1CB Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1939a

Specification

PPP1CB Antibody - Product Information

Application	**E, WB, IF, FC, IHC**
Primary Accession	P62140
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**37.2kDa 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. Mouse studies suggest that PP1 functions as a suppressor of learning and memory. Two alternatively spliced transcript variants encoding distinct isoforms have been observed

Immunogen
Purified recombinant fragment of human PPP1CB (AA: 174-327) expressed in E. Coli.

Formulation
Purified antibody in PBS with 0.05% sodium azide.

PPP1CB Antibody - Additional Information

Gene ID 5500

Other Names
Serine/threonine-protein phosphatase PP1-beta catalytic subunit, PP-1B, PPP1CD, 3.1.3.16, 3.1.3.53, PPP1CB

Dilution
E~~1/10000
WB~~1/500 - 1/2000
IF~~1/200 - 1/1000
FC~~1/200 - 1/400
IHC~~1/200 - 1/1000

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
PPP1CB Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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PPP1CB Antibody - Protein Information

Name PPP1CB

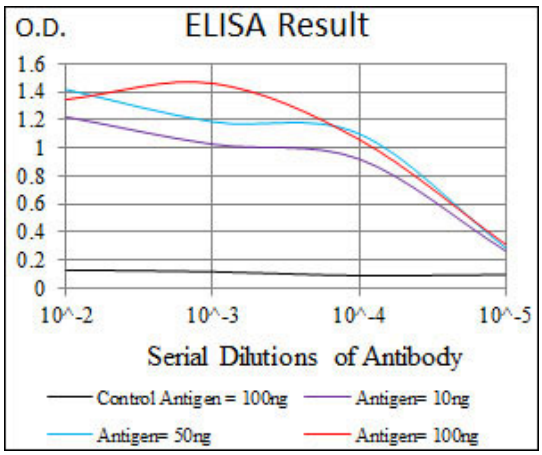
Function
Protein phosphatase that associates with over 200 regulatory proteins to form highly specific holoenzymes which dephosphorylate hundreds of biological targets. Protein phosphatase (PP1) is essential for cell division, it participates in the regulation of glycogen metabolism, muscle contractility and protein synthesis. Involved in regulation of ionic conductances and long-term synaptic plasticity. 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. 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).

Cellular Location
Cytoplasm. Nucleus. Nucleus, nucleoplasm. Nucleus, nucleolus. Note=Highly mobile in cells and can be relocalized through interaction with targeting subunits. In the presence of PPP1R8 relocalizes from the nucleus to nuclear speckles.

PPP1CB 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



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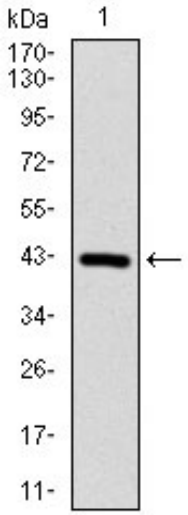


Figure 1: Western blot analysis using PPP1CB mAb against human PPP1CB (AA: 174-327) recombinant protein. (Expected MW is 43.2 kDa)

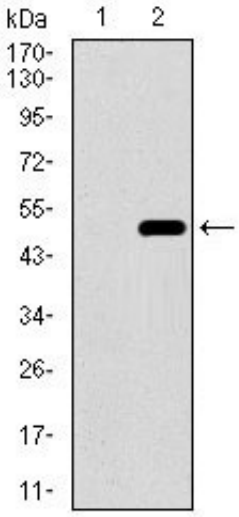


Figure 2: Western blot analysis using PPP1CB mAb against HEK293 (1) and PPP1CB (AA: 174-327)-hIgGFc transfected HEK293 (2) cell lysate.

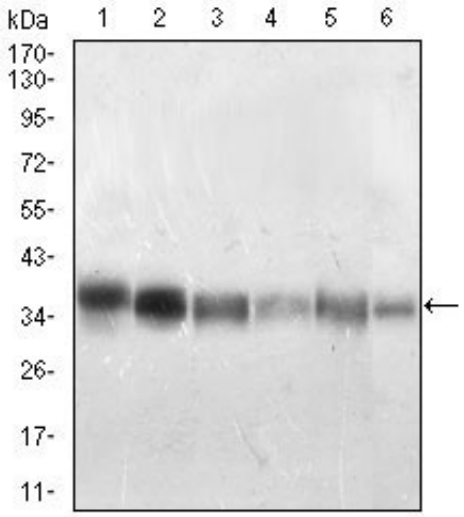


Figure 3: Western blot analysis using PPP1CB mouse mAb against Jurkat (1), A431 (2), Hela (3), HepG2 (4), HEK293 (5), MCF-7 (6) cell lysate.

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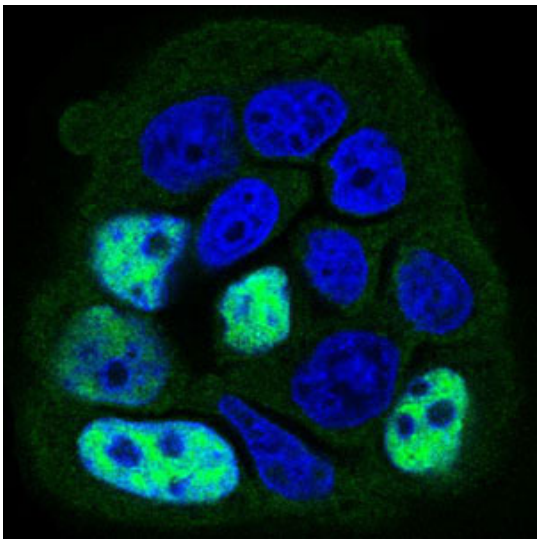


Figure 4: Immunofluorescence analysis of MCF-7 cells using PPP1CB mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Secondary antibody from Fisher (Cat#: 35503)

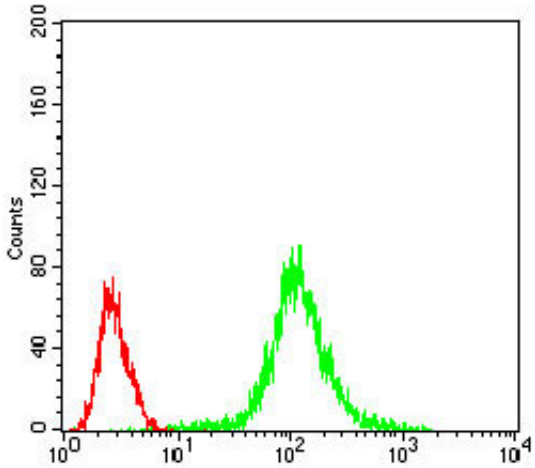


Figure 5: Flow cytometric analysis of Jurkat cells using PPP1CB mouse mAb (green) and negative control (red).

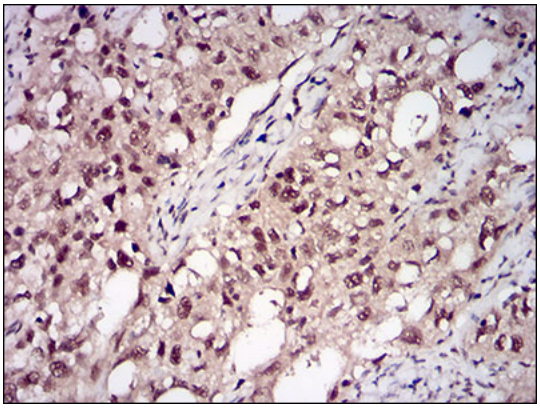


Figure 6: Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using PPP1CB mouse mAb with DAB staining.

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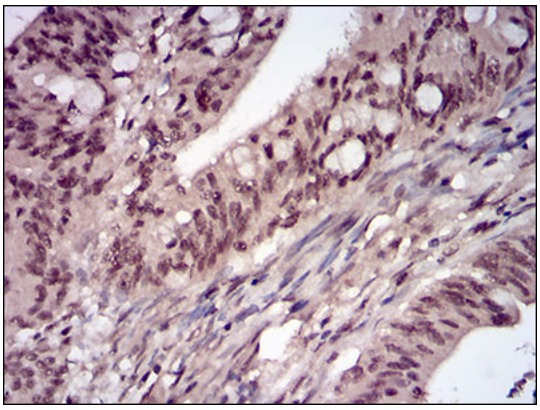


Figure 7: Immunohistochemical analysis of paraffin-embedded rectum cancer tissues using PPP1CB mouse mAb with DAB staining.

PPP1CB Antibody - Background

This gene belongs to the forkhead family of transcription factors which is characterized by a distinct DNA-binding forkhead domain. The specific function of this gene has not yet been determined; however, it may play a role in the development of mesenchymal tissues. ; ;

PPP1CB Antibody - References

1. J Biol Chem. 2011 Sep 23;286(38):32931-6.2. Mol Biol Cell. 2010 Dec;21(24):4409-17.