

PP1C beta Rabbit mAb

Catalog # AP75940

Product Information

Application WB, IHC-P, IHC-F, IP, ICC

Primary Accession P62140

Reactivity Human, Mouse, Rat

Host Rabbit

Clonality Monoclonal Antibody

Calculated MW 37187

Additional Information

Gene ID 5500

Other Names PPP1CB

Dilution WB~~1/500-1/1000 IHC-P~~N/A IHC-F~~N/A IP~~N/A ICC~~N/A

Format 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and

0.05% BSA.

Storage Store at 4°C short term. Aliquot and store at -20°C long term. Avoid

freeze/thaw cycles.

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). Core component of the SHOC2-MRAS-PP1c (SMP) holophosphatase complex that

regulates the MAPK pathway activation (PubMed:35768504,

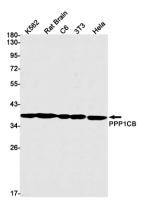
PubMed:<u>35831509</u>, PubMed:<u>36175670</u>). The SMP complex specifically dephosphorylates the inhibitory phosphorylation at 'Ser-259' of RAF1 kinase,

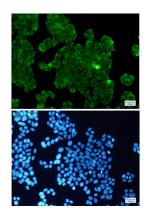
'Ser-365' of BRAF kinase and 'Ser-214' of ARAF kinase, stimulating their kinase activities (PubMed:35768504, PubMed:35831509, PubMed:36175670). The SMP complex enhances the dephosphorylation activity and substrate specificity of PP1c (PubMed:35768504, PubMed:36175670).

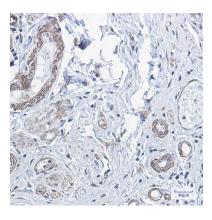
Cellular Location

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.

Images







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