

PPP1CC Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP16979b

Specification

PPP1CC Antibody (C-term) - Product Information

Application WB,E
Primary Accession P36873

Other Accession <u>P63088</u>, <u>P63087</u>, <u>P61287</u>, <u>NP 002701.1</u>

Reactivity Human

Predicted Bovine, Mouse, Rat

Host Rabbit
Clonality Polyclonal
Isotype Rabbit IgG
Calculated MW 36984
Antigen Region 281-309

PPP1CC Antibody (C-term) - Additional Information

Gene ID 5501

Other Names

Serine/threonine-protein phosphatase PP1-gamma catalytic subunit, PP-1G, Protein phosphatase 1C catalytic subunit, PPP1CC

Target/Specificity

This PPP1CC antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 281-309 amino acids from the C-terminal region of human PPP1CC.

Dilution

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

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

Precautions

PPP1CC Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PPP1CC Antibody (C-term) - Protein Information

Name PPP1CC



Function Protein phosphatase that associates with over 200 regulatory proteins to form highly specific holoenzymes which dephosphorylate hundreds of biological targets (PubMed:17936702, PubMed: 25012651). Protein phosphatase 1 (PP1) is essential for cell division, and participates in the regulation of glycogen metabolism, muscle contractility and protein synthesis. Dephosphorylates RPS6KB1 (PubMed: 17936702). 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 (PubMed: 20516061). In balance with CSNK1D and CSNK1E, determines the circadian period length, through the regulation of the speed and rhythmicity of PER1 and PER2 phosphorylation (PubMed: 21712997). May dephosphorylate CSNK1D and CSNK1E (By similarity). Regulates the recruitment of the SKA complex to kinetochores (PubMed: 28982702). 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). Together with PPP1CA (PP1- alpha subunit), dephosphorylates IFIH1/MDA5 and RIG-I leading to their activation and a functional innate immune response (PubMed: 23499489). Core component of the SHOC2-MRAS-PP1c (SMP) holophosphatase complex that regulates the MAPK pathway activation (PubMed: 35768504, PubMed: 35831509). 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: <u>35768504</u>, PubMed: <u>35831509</u>). Dephosphorylates MKI67 at the onset of anaphase (PubMed: <u>25012651</u>). The SMP complex enhances the dephosphorylation

activity and substrate specificity of PP1c (PubMed:35768504, PubMed:35831509).

Cellular Location

Cytoplasm. Nucleus. Nucleus, nucleolus. Nucleus, nucleoplasm. Nucleus speckle. Chromosome, centromere, kinetochore. Cleavage furrow. Midbody Mitochondrion. Cytoplasm, cytoskeleton, microtubule organizing center Note=Colocalizes with SPZ1 in the nucleus (By similarity). Colocalizes with URI1 at mitochondrion (PubMed:17936702). Rapidly exchanges between the nucleolar, nucleoplasmic and cytoplasmic compartments (PubMed:11739654). Highly mobile in cells and can be relocalized through interaction with targeting subunits (PubMed:17965019). In the presence of PPP1R8 relocalizes from the nucleolus to nuclear speckles (PubMed:11739654). Shows a dynamic targeting to specific sites throughout the cell cycle (PubMed:12529430). Highly concentrated in nucleoli of interphase cells and localizes at kinetochores early in mitosis (PubMed:12529430). Relocalization to chromosome-containing regions occurs at the transition from early to late anaphase (PubMed:12529430). Also accumulates at the cleavage furrow and midbody by telophase (PubMed:12529430). Colocalizes with DYNLT4 in the microtubule organizing center (MTOC) (PubMed:23789093) {ECO:0000250|UniProtKB:P63087,

ECO:0000269|PubMed:11739654, ECO:0000269|PubMed:12529430,

ECO:0000269|PubMed:17936702, ECO:0000269|PubMed:17965019,

ECO:0000269|PubMed:23789093}

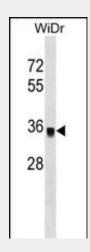
PPP1CC Antibody (C-term) - Protocols

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

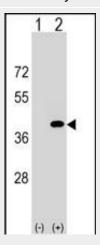
- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PPP1CC Antibody (C-term) - Images





PPP1CC Antibody (C-term) (Cat. #AP16979b) western blot analysis in WiDr cell line lysates (35ug/lane). This demonstrates the PPP1CC antibody detected the PPP1CC protein (arrow).



Western blot analysis of PPP1CC (arrow) using rabbit polyclonal PPP1CC Antibody (C-term) (Cat. #AP16979b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the PPP1CC gene.

PPP1CC Antibody (C-term) - Background

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.

PPP1CC Antibody (C-term) - References

Lee, J.H., et al. J. Biol. Chem. 285(32):24466-24476(2010) Kuzmin, A., et al. Biol. Reprod. 81(2):319-326(2009) Fujiki, R., et al. Nature 459(7245):455-459(2009) Rogne, M., et al. Hum. Mol. Genet. 18(5):978-987(2009) Tchiviley, I., et al. J. Biol. Chem. 283(32):22193-22205(2008)