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PPP1CB Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13874b

Product Information

Application	WB, E
Primary Accession	P62140
Other Accession	Q6GQL2, P62142, P62143, P61292, P62141, P62207, Q3SWW9, NP_002700.1, NP_996759.1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Chicken, Mouse, Pig, Rabbit, Rat, Xenopus, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33955
Calculated MW	37187
Antigen Region	298-327

Additional Information

Gene ID	5500
Other Names	Serine/threonine-protein phosphatase PP1-beta catalytic subunit, PP-1B, PPP1CD, PPP1CB
Target/Specificity	This PPP1CB antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 298-327 amino acids from the C-terminal region of human PPP1CB.
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	PPP1CB Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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:35831509, PubMed:36175670). 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.

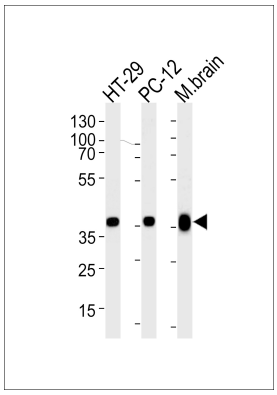
Background

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.

References

Lee, J.H., et al. J. Biol. Chem. 285(32):24466-24476(2010)
Fujiki, R., et al. Nature 459(7245):455-459(2009)
Mavaddat, N., et al. Cancer Epidemiol. Biomarkers Prev. 18(1):255-259(2009)
Sueyoshi, T., et al. Mol. Pharmacol. 73(4):1113-1121(2008)
Rikova, K., et al. Cell 131(6):1190-1203(2007)

Images



Western blot analysis of lysates from HT-29, PC-12 cell line and mouse brain tissue lysate (from left to right), using PPP1CB Antibody (C-term) (Cat. #AP13874b). AP13874b was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug per lane.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.