

PPP2CA Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20181c

Specification

PPP2CA Antibody (Center) - Product Information

Application	WB,E
Primary Accession	P67775
Other Accession	P23696 , P63331 , P67777 , P67776 , P63330 , P67774 , NP_002706.1
Reactivity	Mouse
Predicted	Bovine, Pig, Rabbit, Rat, Drosophila
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	35594
Antigen Region	88-116

PPP2CA Antibody (Center) - Additional Information

Gene ID 5515

Other Names

Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform, PP2A-alpha, Replication protein C, RP-C, PPP2CA

Target/Specificity

This PPP2CA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 88-116 amino acids from the Central region of human PPP2CA.

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

PPP2CA Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

PPP2CA Antibody (Center) - Protein Information

Name PPP2CA

Function Catalytic subunit of protein phosphatase 2A (PP2A), a serine/threonine phosphatase involved in the regulation of a wide variety of enzymes, signal transduction pathways, and cellular events (PubMed:[10801873](#), PubMed:[12473674](#), PubMed:[17245430](#), PubMed:[22613722](#), PubMed:[33243860](#), PubMed:[34004147](#), PubMed:[9920888](#)). PP2A is the major phosphatase for microtubule-associated proteins (MAPs) (PubMed:[22613722](#)). PP2A can modulate the activity of phosphorylase B kinase casein kinase 2, mitogen-stimulated S6 kinase, and MAP-2 kinase (PubMed:[22613722](#)). Cooperates with SGO2 to protect centromeric cohesin from separase-mediated cleavage in oocytes specifically during meiosis I (By similarity). Can dephosphorylate various proteins, such as SV40 large T antigen, AXIN1, p53/TP53, PIM3, WEE1 (PubMed:[10801873](#), PubMed:[12473674](#), PubMed:[17245430](#), PubMed:[9920888](#)). Activates RAF1 by dephosphorylating it at 'Ser-259' (PubMed:[10801873](#)). Mediates dephosphorylation of WEE1, preventing its ubiquitin-mediated proteolysis, increasing WEE1 protein levels, and promoting the G2/M checkpoint (PubMed:[33108758](#)). Mediates dephosphorylation of MYC; promoting its ubiquitin-mediated proteolysis: interaction with AMBRA1 enhances interaction between PPP2CA and MYC (PubMed:[25438055](#)). Mediates dephosphorylation of FOXO3; promoting its stabilization: interaction with AMBRA1 enhances interaction between PPP2CA and FOXO3 (PubMed:[30513302](#)). Catalyzes dephosphorylation of the pyrin domain of NLRP3, promoting assembly of the NLRP3 inflammasome (By similarity). Together with RACK1 adapter, mediates dephosphorylation of AKT1 at 'Ser-473', preventing AKT1 activation and AKT-mTOR signaling pathway (By similarity). Dephosphorylation of AKT1 is essential for regulatory T-cells (Treg) homeostasis and stability (By similarity). Catalyzes dephosphorylation of PIM3, promoting PIM3 ubiquitination and proteasomal degradation (PubMed:[12473674](#)). Part of the striatin- interacting phosphatase and kinase (STRIPAK) complexes (PubMed:[33633399](#)). STRIPAK complexes have critical roles in protein (de)phosphorylation and are regulators of multiple signaling pathways including Hippo, MAPK, nuclear receptor and cytoskeleton remodeling (PubMed:[33633399](#)). Different types of STRIPAK complexes are involved in a variety of biological processes such as cell growth, differentiation, apoptosis, metabolism and immune regulation (PubMed:[33633399](#)). Key mediator of a quality checkpoint during transcription elongation as part of the Integrator-PP2A (INTAC) complex (PubMed:[33243860](#), PubMed:[34004147](#), PubMed:[37080207](#)). The INTAC complex drives premature transcription termination of transcripts that are unfavorably configured for transcriptional elongation: within the INTAC complex, PPP2CA catalyzes dephosphorylation of the C-terminal domain (CTD) of Pol II subunit POLR2A/RPB1 and SUPT5H/SPT5, thereby preventing transcriptional elongation (PubMed:[33243860](#), PubMed:[34004147](#), PubMed:[37080207](#)).

Cellular Location

Cytoplasm. Nucleus. Chromosome. Chromosome, centromere. Cytoplasm, cytoskeleton, spindle pole. Note=In prometaphase cells, but not in anaphase cells, localizes at centromeres (PubMed:[16541025](#)). During mitosis, also found at spindle poles (PubMed:[16541025](#)). Centromeric localization requires the presence of SGO2 (By similarity). Recruited to chromatin and transcription pause-release checkpoint via its association with the Integrator complex (PubMed:[33243860](#), PubMed:[34004147](#)). {ECO:0000250|UniProtKB:P63330, ECO:0000269|PubMed:[16541025](#), ECO:0000269|PubMed:[33243860](#), ECO:0000269|PubMed:[34004147](#)}

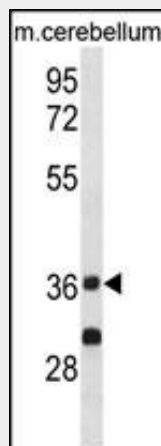
PPP2CA Antibody (Center) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

PPP2CA Antibody (Center) - Images



PPP2CA Antibody (Center) (Cat. #AP20181c) western blot analysis in mouse cerebellum tissue lysates (35ug/lane). This demonstrates the PPP2CA antibody detected the PPP2CA protein (arrow).

PPP2CA Antibody (Center) - Background

This gene encodes the phosphatase 2A catalytic subunit. Protein phosphatase 2A is one of the four major Ser/Thr phosphatases, and it is implicated in the negative control of cell growth and division. It consists of a common heteromeric core enzyme, which is composed of a catalytic subunit and a constant regulatory subunit, that associates with a variety of regulatory subunits. This gene encodes an alpha isoform of the catalytic subunit.

PPP2CA Antibody (Center) - References

Shimada, M., et al. Hum. Genet. 128(4):433-441(2010)
Jayadeva, G., et al. J. Biol. Chem. 285(39):29863-29873(2010)
Pradhan, S., et al. J. Biol. Chem. 285(38):29059-29068(2010)
Schmitz, M.H., et al. Nat. Cell Biol. 12(9):886-893(2010)
Antony, R., et al. J. Biol. Chem. 285(24):18301-18308(2010)