

Goat Anti-PPP2CA / PPP2CB Antibody
Peptide-affinity purified goat antibody
Catalog # AF1854a**Specification**

Goat Anti-PPP2CA / PPP2CB Antibody - Product Information

Application	WB, E
Primary Accession	P67775
Other Accession	NP_004147 , 5515 , 5516 , 19052 (mouse) , 24672 (rat)
Reactivity	Human
Predicted	Mouse, Rat, Rabbit, Pig, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	35594

Goat Anti-PPP2CA / PPP2CB Antibody - Additional Information**Gene ID** 5515**Other Names**

Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform, PP2A-alpha, 3.1.3.16, Replication protein C, RP-C, PPP2CA

Dilution

WB~~1:1000

E~~N/A

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

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

Goat Anti-PPP2CA / PPP2CB Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-PPP2CA / PPP2CB Antibody - 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}

Goat Anti-PPP2CA / PPP2CB 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 Cytometry](#)
- [Cell Culture](#)

Goat Anti-PPP2CA / PPP2CB Antibody - Images



AF1854a (0.05 µg/ml) staining of Human Cerebellum lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-PPP2CA / PPP2CB Antibody - 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.

Goat Anti-PPP2CA / PPP2CB Antibody - References

An approach based on a genome-wide association study reveals candidate loci for narcolepsy. Shimada M, et al. Hum Genet, 2010 Oct. PMID 20677014.
Neuroprotectin D1 induces dephosphorylation of Bcl-xL in a PP2A-dependent manner during oxidative stress and promotes retinal pigment epithelial cell survival. Antony R, et al. J Biol Chem, 2010 Jun 11. PMID 20363734.
HUNK suppresses metastasis of basal type breast cancers by disrupting the interaction between

PP2A and cofilin-1. Quintela-Fandino M, et al. Proc Natl Acad Sci U S A, 2010 Feb 9. PMID 20133759.
cAMP-stimulated protein phosphatase 2A activity associated with muscle A kinase-anchoring protein (mAKAP) signaling complexes inhibits the phosphorylation and activity of the cAMP-specific phosphodiesterase PDE4D3. Dodge-Kafka KL, et al. J Biol Chem, 2010 Apr 9. PMID 20106966.
Endotoxin conditioning induces VCP/p97-mediated and inducible nitric-oxide synthase-dependent Tyr284 nitration in protein phosphatase 2A. Ohama T, et al. J Biol Chem, 2010 Mar 19. PMID 20100830.