

Phospho-PP2A alpha (Y307) Antibody

Rabbit mAb

Catalog # AP90124

Product Information

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|--------------------------|---|
| Application | WB, IHC, IF, ICC, IP, IHF |
| Primary Accession | P67775 |
| Reactivity | Rat, Human, Mouse |
| Clonality | Monoclonal |
| Other Names | eplication protein C; PP2A-alpha; Replication protein C; RP-C; PPP2CA; MGC786 |
| Isotype | Rabbit IgG |
| Host | Rabbit |
| Calculated MW | 35594 |

Additional Information

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|-------------------------------------|--|
| Dilution | WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 IP 1:50 |
| Purification | Affinity-chromatography |
| Immunogen | A synthesized peptide derived from human Phospho-PP2A alpha (Y307) |
| Description | PP2A is the major phosphatase for microtubule-associated proteins (MAPs). PP2A can modulate the activity of phosphorylase B kinase casein kinase 2, mitogen-stimulated S6 kinase, and MAP-2 kinase. Cooperates with SGOL2 to protect centromeric cohesin from separase-mediated cleavage in oocytes specifically during meiosis I (By similarity). Can dephosphorylate SV40 large T antigen and p53/TP53. Activates RAF1 by dephosphorylating it at 'Ser-259'. |
| Storage Condition and Buffer | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle. |

Protein Information

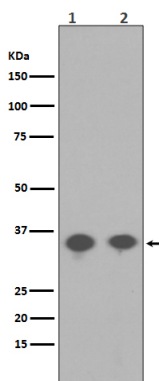
| | |
|-----------------|---|
| Name | PPP2CA |
| Function | Catalytic subunit of protein phosphatase 2A (PP2A), a serine/threonine phosphatase involved in the regulation of a wide variety of enzymes, signal transduction pathways, and cellular events (PubMed: 10801873 , PubMed: 12473674 , PubMed: 17245430 , 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](#)}

Images



Western blot analysis of Phospho-PP2A alpha (Y307) in (1) Rat kidney lysate; (2) A431 cell lysate treated with EGF.

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