

Rabbit PPP1CA Polyclonal Antibody | anti-PPP1CA antibody

PPP1CA Antibody

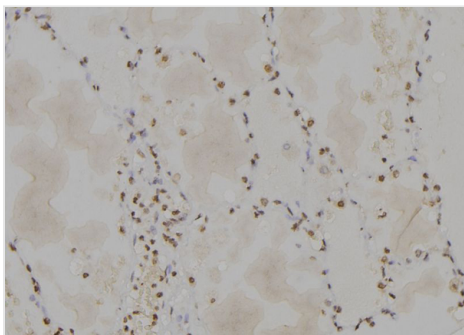
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326662	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

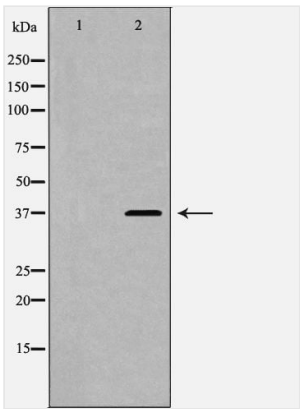
PPP1CA; Polyclonal Antibody; PPP1CA Antibody; Alpha isoform serine threonine protein phosphatase PP1alpha 1 catalytic subunit; Catalytic subunit; EC 3.1.3.16; MGC15877; MGC1674; PP 1A; PP-1A; PP1A; PP1A_HUMAN; PP1alpha; PP2C ALPHA; PP2CA; Ppp1ca; Protein Phosphatase 2C Alpha Isoform; Serine threonine protein phosphatase PP1 alpha catalytic subunit; Serine threonine protein phosphatase PP1 alpha catalytic subunit protein phosphatase 1; Serine/threonine-protein phosphatase PP1-alpha catalytic subunit; anti-PPP1CA antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	PPP1CA antibody detects endogenous levels of total PPP1CA
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	341
Applicable Applications for anti-PPP1CA antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human PPP1CA
Subcellular Location	Cytoplasm. Nucleus. Nucleus > Nucleoplasm. Nucleus > Nucleolus. Primarily nuclear and largely excluded from the nucleolus. Highly mobile in cells and can be relocalized through interaction with targeting subunits. NOM1 plays a role in targeting this protein to the nucleolus. In the presence of PPP1R8 relocalizes from the nucleus to nuclear speckles.
Tissue Specificity	Up-regulated in synovial fluid mononuclear cells and peripheral blood mononuclear cells from patients with rheumatoid arthritis.
Predicted Cross Reactivity	Bovine, Horse, Sheep, Rabbit, Dog
Similarity	Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemistry)
AAA326662 at 1/100 staining Human lung tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)
Western blot analysis of Hela whole cell lysates, using PPP1CA Antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-PPP1CA antibody

Description: Type 1 protein phosphatase (PP1), a serine/threonine phosphatase, is highly conserved in eukaryotic cells. Four isoforms of PP1 have been characterized: PP1alpha, PP1delta, PP1gamma1 and PP1gamma2 (1). Involvement in cell cycle regulation is one of the biological functions of PP1 (1). It has been illustrated that PP1 dephosphorylates Rb and cdc25 during mitosis (2, 3). A cell cycle-dependent phosphorylation at Thr320 of PP1alpha by cdc2 kinase inhibits PP1alpha activity (4).

Function: Protein phosphatase that associates with over 200 regulatory proteins to form highly specific holoenzymes which dephosphorylate hundreds of biological targets. 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 Ca2+/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. Regulates NEK2 function in terms of kinase activity and centrosome number and splitting, both in the presence and absence of radiation-induced DNA damage. Regulator of neural tube and optic fissure closure, and enteric neural crest cell (ENCCs) migration during development. 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). Dephosphorylates CENPA (PubMed:25556658). Dephosphorylates the 'Ser-139' residue of ATG16L1 causing dissociation of ATG12-ATG5-ATG16L1 complex, thereby inhibiting autophagy (PubMed:26083323).

Subunit Structure: PP1 comprises a catalytic subunit, PPP1CA, PPP1CB or PPP1CC, which is folded into its native form by inhibitor 2 and glycogen synthetase kinase 3, and then complexed to one or several targeting or regulatory subunits. PPP1R12A, PPP1R12B and PPP1R12C mediate binding to myosin. PPP1R3A (in skeletal muscle), PPP1R3B (in liver), PPP1R3C, PPP1R3D and PPP1R3F (in brain) mediate binding to glycogen. Interacts with PPP1R39 (By similarity). Interacts with BTBD10 (By similarity). Interacts with KCTD20 (By similarity). Interacts with PPP1R9A and PPP1R9B. Part of a complex containing PPP1R15B, PP1 and NCK1/2. Interacts with PHACTR4; which acts as an activator of PP1 activity (By similarity). Interacts with PPP1R15A and PPP1R15B; the interactions mediate binding to EIF2S1. Interacts with PPP1R7. Interacts with YLPM1. Forms a complex with ILF2, ILF3, YLPM1, KHDRBS1, RBMX and NCOA5. Interacts with NOM1 and PPP1R8. Interacts with HHV-1 ICP34.5. Interacts with PPP1R16B. Interacts with RPSA only in the presence of PPP1R16B. Component of the PTW/PP1 phosphatase complex, composed of PPP1R10/PNUTS, TOX4, WDR82, and PPP1CA or PPP1CB or PPP1CC. Interacts with PPP1R10/PNUTS and PPP1R8. Interacts with WDR82 in the presence of PPP1R10/PNUTS. Interacts with TRIM28; the interaction dephosphorylates TRIM28 on 'Ser-824' and forms a complex at the p21 promoter site. Interacts with isoform 1 and isoform 4 of NEK2. Interacts with FER; this promotes phosphorylation at Thr-320. Interacts with DAB2; the interaction is mutually exclusive with the AXIN1:PPP1CA interaction. Interacts with FOXP3 (PubMed:23396208). Interacts with CENPA (PubMed:25556658). Interacts with ATG16L1 (PubMed:26083323).

Post-translational Modifications: Phosphorylated. Dephosphorylated at Thr-320 in the presence of ionizing radiation.

Similarity: Belongs to the PPP phosphatase family. PP-1 subfamily.

NCBI AND UNIPROT INFORMATION

NCBI GI #	56790945
NCBI GeneID	5499
NCBI Accession #	NP_001008709.1
NCBI GenBank Nucleotide #	NM_001008709.1
UniProt Accession #	P62136; P08129; P20653; P22802; Q07161; A6NNR3; B2R908
Molecular Weight	Observed: 38 kDa Predicted: 38 kDa
NCBI Official Full Name	serine/threonine-protein phosphatase PP1-alpha catalytic subunit isoform 3
NCBI Official Synonym Full Names	protein phosphatase 1 catalytic subunit alpha
NCBI Official Symbol	PPP1CA
NCBI Official Synonym Symbols	PP1A; PP-1A; PPP1A; PP1alpha
NCBI Protein Information	serine/threonine-protein phosphatase PP1-alpha catalytic subunit
UniProt Protein Name	Serine/threonine-protein phosphatase PP1-alpha catalytic subunit
UniProt Gene Name	PPP1CA
UniProt Synonym Gene Names	PPP1A; PP-1A

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/ppp1ca-antibody-immunohistochemistry-western-blot-elisa/326662>