

Rabbit p21 Cip1 Polyclonal Antibody | anti-p21Cip1 antibody

Phospho-p21 Cip1 (Ser130) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329823	Rabbit	Human, Rat Predicted Reactivity: Horse (86%), Rabbit (100%)	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

p21 Cip1; Polyclonal Antibody; Phospho-p21 Cip1 (Ser130) Antibody; CAP20; CDK-interacting protein 1; CDKI; CDKN1; Cdkn1a; CDN1A_HUMAN; CIP1; Cyclin Dependent Kinase Inhibitor 1A; Cyclin-dependent kinase inhibitor 1; Cyclin-dependent kinase inhibitor 1A (P21); Cyclin-dependent kinase inhibitor 1A (p21; Cip1); DNA Synthesis Inhibitor; MDA-6; MDA6; Melanoma differentiation-associated protein 6; Melanoma differentiation-associated protein; p21; P21 protein; p21CIP1; p21Cip1/Waf1; p21WAF; PIC1; SDI1; SLC12A9; WAF1; Wild type p53 activated fragment 1 (WAF1); Wild type p53 activated fragment 1; Wildtype p53-activated fragment 1; anti-p21Cip1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Rat Predicted Reactivity: Horse (86%), Rabbit (100%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-p21 Cip1 (Ser130) Antibody detects endogenous levels of p21 Cip1 only when phosphorylated at Ser130. Tissue Specificity: Expressed in all adult tissues, with 5-fold lower levels observed in the brain.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-p21Cip1 antibody	ELISA (Peptide ELISA), ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human p21 Cip1 around the phosphorylation site of Ser130.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Phosphorylation of Thr-145 by Akt or of Ser-146 by PKC impairs binding to PCNA. Phosphorylation at Ser-114 by GSK3-beta enhances ubiquitination by the DCX (DTL) complex. Phosphorylation of Thr-145 by PIM2 enhances CDKN1A stability and inhibits cell proliferation. Phosphorylation of Thr-145 by PIM1 results in the relocation of CDKN1A to the cytoplasm and enhanced CDKN1A protein stability. UV radiation-induced phosphorylation at Thr-80 by LKB1 and at Ser-146 by NUA1 leads to its degradation. Ubiquitinated by MKRN1; leading to polyubiquitination and 26S proteasome-dependent degradation. Ubiquitinated by the DCX (DTL) complex, also named CRL4 (CDT2) complex, leading to its degradation during S phase or following UV irradiation. Ubiquitination by the DCX (DTL) complex is essential to control replication licensing and is PCNA-dependent: interacts with PCNA via its PIP-box, while the presence of the containing the 'K+4' motif in the PIP box, recruit the DCX (DTL) complex, leading to its degradation. Ubiquitination at Ser-2 leads to degradation by the proteasome pathway. Ubiquitinated by RNF114; leading to proteasomal degradation. Acetylation leads to protein stability. Acetylated in vitro on Lys-141, Lys-154, Lys-161 and Lys-163. Deacetylation by HDAC1 is prevented by competitive binding of C10orf90/FATS to HDAC1 (By similarity).

Subunit Structure	Interacts with HDAC1; the interaction is prevented by competitive binding of C10orf90/FATS to HDAC1 facilitating acetylation and protein stabilization of CDKN1A/p21 (By similarity). Interacts with MKRN1. Interacts with PSMA3. Interacts with PCNA. Component of the ternary complex, cyclin D-CDK4-CDKN1A. Interacts (via its N-terminal domain) with CDK4; the interaction promotes the assembly of the cyclin D-CDK4 complex, its nuclear translocation and promotes the cyclin D-dependent enzyme activity of CDK4. Binding to CDK2 leads to CDK2/cyclin E inactivation at the G1-S phase DNA damage checkpoint, thereby arresting cells at the G1-S transition during DNA repair. Interacts with PIM1. Interacts with STK11 and NUA1. Interacts with DTL. Interacts with isoform 1 and isoform 2 of TRIM39.
Similarity	The PIP-box K+4 motif mediates both the interaction with PCNA and the recruitment of the DCX (DTL) complex: while the PIP-box interacts with PCNA, the presence of the K+4 submotif, recruits the DCX (DTL) complex, leading to its ubiquitination. The C-terminal is required for nuclear localization of the cyclin D-CDK4 complex. Belongs to the CDI family.
Subcellular Location	Cytoplasm. Nucleus.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



Application Data

At 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



IHC (Immunohistochemistry)

At 1/100 staining Rat heart 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 primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

Staining Rat brain 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 primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of p21 Cip1 (Phospho-Ser130) using HeLa whole cell lysates. -/+ means absence or presence of N peptide(1/4 non-phospho peptide) and P peptide(phospho peptide).

ADDITIONAL INFORMATION

Related Product Information for anti-p21Cip1 antibody	May be involved in p53/TP53 mediated inhibition of cellular proliferation in response to DNA damage. Binds to and inhibits cyclin-dependent kinase activity, preventing phosphorylation of critical cyclin-dependent kinase substrates and blocking cell cycle progression. Functions in the nuclear localization and assembly of cyclin D-CDK4 complex and promotes its kinase activity towards RB1. At higher stoichiometric ratios, inhibits the kinase activity of the cyclin D-CDK4 complex. Inhibits DNA synthesis by DNA polymerase delta by competing with POLD3 for PCNA binding. Plays an important role in controlling cell cycle progression and DNA damage-induced G2 arrest.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	11386203
NCBI GeneID	1026
NCBI Accession #	NP_000380.1
NCBI GenBank Nucleotide #	NM_000389.4
UniProt Accession #	P38936; Q14010; Q9BUT4
Molecular Weight	18,119 Da

NCBI Official Full Name	cyclin-dependent kinase inhibitor 1
NCBI Official Synonym Full Names	cyclin-dependent kinase inhibitor 1A (p21, Cip1)
NCBI Official Symbol	CDKN1A
NCBI Official Synonym Symbols	P21; CIP1; SDI1; WAF1; CAP20; CDKN1; MDA-6; p21CIP1
NCBI Protein Information	cyclin-dependent kinase inhibitor 1; DNA synthesis inhibitor; CDK-interacting protein 1; CDK-interaction protein 1; wild-type p53-activated fragment 1; melanoma differentiation associated protein 6
UniProt Protein Name	Cyclin-dependent kinase inhibitor 1
UniProt Gene Name	CDKN1A
UniProt Synonym Gene Names	CAP20; CDKN1; CIP1; MDA6; PIC1; SDI1; WAF1; MDA-6
UniProt Entry Name	CDN1A_HUMAN

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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