

Rabbit p21 Cip1 Polyclonal Antibody | anti-CDKN1A antibody

p21 Cip1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326194	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

p21 Cip1; Polyclonal Antibody; p21 Cip1 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-CDKN1A antibody

PRODUCT SPECIFICATIONS

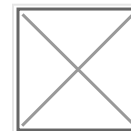
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	p21 Cip1 antibody detects endogenous levels of total p21 Cip1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid; Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	164
Applicable Applications for anti-CDKN1A antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human p21 Cip1
Subcellular Location	Cytoplasm. Nucleus.
Tissue Specificity	Expressed in all adult tissues, with 5-fold lower levels observed in the brain.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



WB (Western Blot)

Western blot analysis of HeLa whole cell lysates, using p21 Cip1 Antibody. The lane on the left is treated with the antigen-specific peptide.



IF (Immunofluorescence)

AAA326194 staining HeLa by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes 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)

AAA326194 at 1/100 staining Human kidney 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.

ADDITIONAL INFORMATION

Related Product Information for anti-CDKN1A antibody	Description: The tumor suppressor protein p21 Waf1/Cip1 acts as an inhibitor of cell cycle progression. It functions in stoichiometric relationships forming heterotrimeric complexes with cyclins and cyclin-dependent kinases. In association with CDK2 complexes, it serves to inhibit kinase activity and block progression through G1/S (1). However, p21 may also enhance assembly and activity in complexes of CDK4 or CDK6 and cyclin D (2). The carboxy-terminal region of p21 is sufficient to bind and inhibit PCNA, a subunit of DNA polymerase, and may coordinate DNA replication with cell cycle progression (3). Upon UV damage or during cell cycle stages when cdc2/cyclin B or CDK2/cyclin A is active, p53 is phosphorylated and upregulates p21 transcription via a p53-responsive element (4). Protein levels of p21 are downregulated through ubiquitination and proteasomal degradation (5). Function: 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 (PubMed:11595739). 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 (PubMed:19536131). Interacts with PSMA3 (PubMed:11350925). Interacts with PCNA (PubMed:11595739, PubMed:18794347, PubMed:18703516, PubMed:8861913). 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 (PubMed:9106657). 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 (PubMed:19445729). Interacts with PIM1 (PubMed:12431783). Interacts with STK11 and NUA1 (PubMed:25329316). 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). 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.
References	Hui-Fang Wang, Jing-XueMa, Qing-LiShang, Jian-BinAn, Hai-TingChen; Journal: EUR J PHARMACOL. Crocetin inhibits the proliferation, migration and TGF-beta 2-induced epithelial-mesenchymal transition of retinal pigment epithelial cells.

NCBI AND UNIPROT INFORMATION

NCBI GI #	11386203
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NCBI GeneID	1026
NCBI Accession #	NP_000380.1
NCBI GenBank Nucleotide #	NM_000389.4
UniProt Accession #	P38936; Q14010; Q6FI05; Q9BUT4
Molecular Weight	21 kDa
NCBI Official Full Name	cyclin-dependent kinase inhibitor 1 isoform 1
NCBI Official Synonym Full Names	cyclin dependent kinase inhibitor 1A
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
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

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/p21-cip1-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/326194>