

# Phospho-P21CIP1(T145) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP3189a

## Product Information

<b>Application</b>	WB, DB, IHC-P, E
<b>Primary Accession</b>	<a href="#">P38936</a>
<b>Reactivity</b>	Human, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Calculated MW</b>	18119

## Additional Information

<b>Gene ID</b>	1026
<b>Other Names</b>	Cyclin-dependent kinase inhibitor 1, CDK-interacting protein 1, Melanoma differentiation-associated protein 6, MDA-6, p21, CDKN1A, CAP20, CDKN1, CIP1, MDA6, PIC1, SDI1, WAF1
<b>Target/Specificity</b>	This P21CIP1 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding T145 of human P21CIP1.
<b>Dilution</b>	WB~~1:1000 DB~~1:500 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	Phospho-P21CIP1(T145) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

<b>Name</b>	CDKN1A ( <a href="#">HGNC:1784</a> )
<b>Function</b>	Plays an important role in controlling cell cycle progression and DNA damage-induced G2 arrest (PubMed: <a href="#">9106657</a> ). Involved in p53/TP53 mediated inhibition of cellular proliferation in response to DNA damage. Also involved in p53-independent DNA damage-induced G2 arrest mediated by CREB3L1 in astrocytes and osteoblasts (By similarity). 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](#)). Negatively regulates the CDK4- and CDK6-driven phosphorylation of RB1 in keratinocytes, thereby resulting in the release of E2F1 and subsequent transcription of E2F1-driven G1/S phase promoting genes (By similarity).

**Cellular Location**

Cytoplasm. Nucleus

**Tissue Location**

Expressed in all adult tissues, with 5-fold lower levels observed in the brain

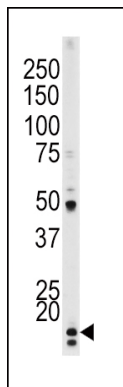
## Background

P21CIP1 is a potent cyclin-dependent kinase inhibitor. This protein binds to and inhibits the activity of cyclin-CDK2 or -CDK4 complexes, and thus functions as a regulator of cell cycle progression at G1. Expression is tightly controlled by the tumor suppressor protein p53, through which this protein mediates the p53-dependent cell cycle G1 phase arrest in response to a variety of stress stimuli. P21CIP1 can interact with proliferating cell nuclear antigen (PCNA), a DNA polymerase accessory factor, and plays a regulatory role in S phase DNA replication and DNA damage repair. This protein has been reported to be specifically cleaved by CASP3-like caspases, which thus leads to a dramatic activation of CDK2, and may be instrumental in the execution of apoptosis following caspase activation.

## References

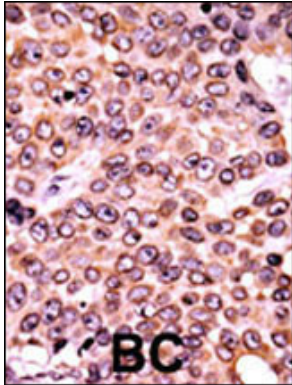
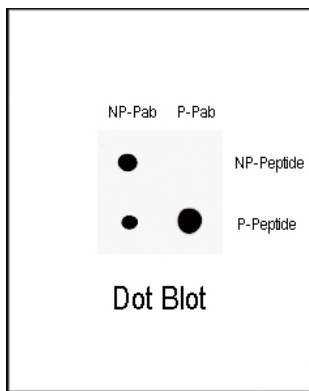
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 Chen, T., et al., Cancer Res. 64(20):7412-7419 (2004).  
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## Images



The anti-Phospho-P21CIP1-T145 Pab (Cat. #AP3189a) is used in Western blot to detect Phospho-P21CIP1-T145 in Hela tissue lysate.

Dot blot analysis of anti-Phospho-P21CIP1-T145 Antibody (Cat. #AP3189a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibodies working concentration was 0.5ug per ml.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

## Citations

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- [Anticancer Activity of  \$\gamma\$ -Bisabolene in Human Neuroblastoma Cells via Induction of p53-Mediated Mitochondrial Apoptosis.](#)
- [Specific function of phosphoinositide 3-kinase beta in the control of DNA replication.](#)

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