

## P21Cip1 Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP9311a

#### **Specification**

## **P21Cip1 Antibody - Product Information**

Application IF, WB,E
Primary Accession P38936
Reactivity Human
Host Rabbit
Clonality Polyclonal
Isotype Rabbit IgG
Antigen Region 105-140

## **P21Cip1 Antibody - Additional Information**

#### **Gene ID 1026**

#### **Other Names**

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

#### Target/Specificity

This P21Cip1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 105-140 amino acids from human P21Cip1.

## **Dilution**

IF~~1:10~50 WB~~1:1000

#### **Format**

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.

#### **Storage**

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.

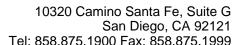
## **Precautions**

P21Cip1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## **P21Cip1 Antibody - Protein Information**

## Name CDKN1A (HGNC:1784)

**Function** Plays an important role in controlling cell cycle progression and DNA damage-induced G2 arrest (PubMed: 9106657). 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**

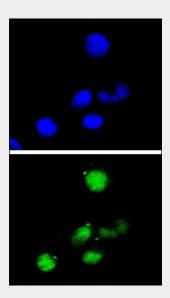
Expressed in all adult tissues, with 5-fold lower levels observed in the brain

#### **P21Cip1 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

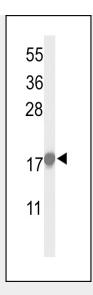
- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

# P21Cip1 Antibody - Images



Confocal immunofluorescent analysis of P21 Antibody (WAF1) (Cat. #AP9311a) with HepG2 cell followed by Alexa Fluor® 488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).





Western blot analysis of P21Cip1-S130 antibody (Cat. #AP9311a) in Hela cell line lysates (35ug/lane). P21Cip1 (arrow) was detected using the purified Pab.

## P21Cip1 Antibody - Background

This gene encodes a potent cyclin-dependent kinase inhibitor. The encoded 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. The expression of this gene 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. This protein 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 was 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. Two alternatively spliced variants, which encode an identical protein, have been reported.

### **P21Cip1 Antibody - References**

Scott, S.A., et al., Leuk. Res. 28(12):1293-1301 (2004). Amini, S., et al., J. Biol. Chem. 279(44):46046-46056 (2004). Chen, T., et al., Cancer Res. 64(20):7412-7419 (2004). Sieburg, M., et al., J. Virol. 78(19):10399-10409 (2004). Giraud, S., et al., Oncogene 23(44):7391-7398 (2004).

## **P21Cip1 Antibody - Citations**

• Neferine, an alkaloid ingredient in lotus seed embryo, inhibits proliferation of human osteosarcoma cells by promoting p38 MAPK-mediated p21 stabilization.