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CDKN1A Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13468b

Product Information

Application	WB, IF, IHC-P, E
Primary Accession	P38936
Other Accession	NP_000380.1, NP_510867.1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33282
Calculated MW	18119
Antigen Region	117-146

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 CDKN1A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 117-146 amino acids from the C-terminal region of human CDKN1A.
Dilution	WB~~1:1000 IF~~1:10~50 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	CDKN1A Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

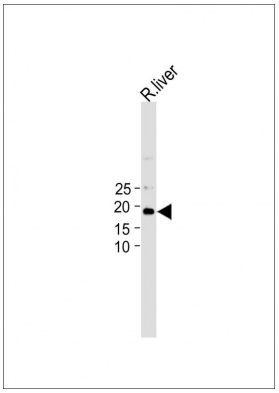
Background

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. Multiple alternatively spliced variants have been found for this gene.

References

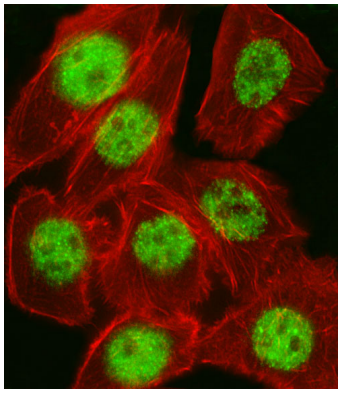
Hu, F., et al. Oncogene 29(40):5464-5474(2010) Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010) Jiang, P., et al. Acta Biochim. Biophys. Sin. (Shanghai) 42(9):671-676(2010) Ho-Pun-Cheung, A., et al. Pharmacogenomics J. (2010) In press : Do Nascimento Borges, B., et al. In Vivo 24(4):579-582(2010)

Images

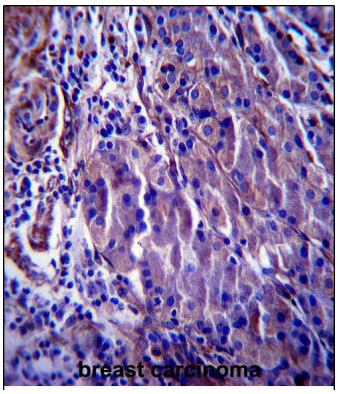


All lanes : Anti-CDKN1A Antibody (C-term) at 1:1000 dilution+ Rat liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 17kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Fluorescent image of A549 cell stained with CDKN1A Antibody (C-term)(Cat#AP13468b).A549 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100



(0.1%, 10 min), then incubated with CDKN1A primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C).CDKN1A immunoreactivity is localized to Nucleus significantly.



CDKN1A Antibody (C-term) (Cat. #AP13468b)immunohistochemistry analysis in formalin fixed and paraffin embedded human breast carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of CDKN1A Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

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