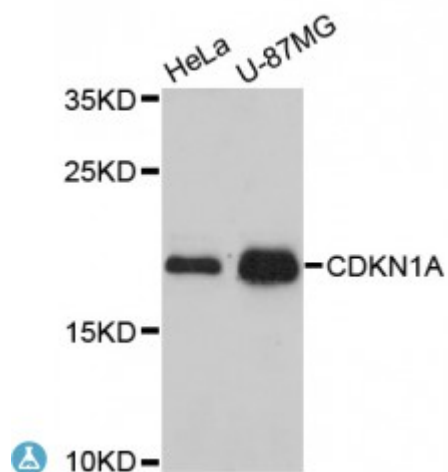


Anti-CDKN1A Antibody



Description

This gene encodes a potent cyclin-dependent kinase inhibitor. The encoded protein binds to and inhibits the activity of cyclin-cyclin-dependent kinase2 or -cyclin-dependent kinase4 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, 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 cyclin-dependent kinase2, and may be instrumental in the execution of apoptosis following caspase activation. Mice that lack this gene have the ability to regenerate damaged or missing tissue. Multiple alternatively spliced variants have been found for this gene.

Model	STJ114923
Host	Rabbit
Reactivity	Human
Applications	IF, IHC, IP, WB
Immunogen	Recombinant protein of human CDKN1A
Gene ID	1026
Gene Symbol	CDKN1A
Dilution range	WB 1:500 - 1:2000 IHC 1:50 - 1:200

IF 1:50 - 1:200

IP 1:20 - 1:50

Tissue Specificity	Expressed in all adult tissues, with 5-fold lower levels observed in the brain
Purification	Affinity purification
Note	For Research Use Only (RUO).
Protein Name	Cyclin-dependent kinase inhibitor 1 CDK-interacting protein 1 Melanoma differentiation-associated protein 6 MDA-6 p21
Molecular Weight	18.119 kDa
Clonality	Monoclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage Instruction	Store at -20C. Avoid freeze / thaw cycles.
Database Links	HGNC:1784OMIM:116899Reactome:R-HSA-187577
Alternative Names	Cyclin-dependent kinase inhibitor 1 CDK-interacting protein 1 Melanoma differentiation-associated protein 6 MDA-6 p21
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 ,
Cellular Localization	Cytoplasm, Nucleus
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,