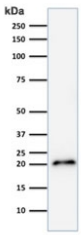
Recombinant CDKN1A Antibody CIP1/2275R / p21 Rabbit Monoclonal Antibody [clone CIP1/2275R] (V3550)

Catalog No.	Formulation	Size
V3550-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3550-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3550SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3550IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

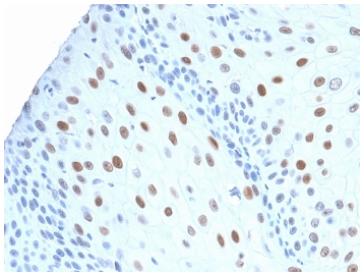
Recombinant RABBIT MONOCLONAL

Bulk quote request

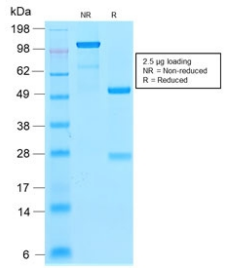
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	CIP1/2275R
Purity	Protein A affinity chromatography
UniProt	P38936
Localization	Nuclear
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Recombinant CDKN1A Antibody CIP1/2275R / p21 Rabbit Monoclonal Antibody is available for research use only.



Recombinant CDKN1A Antibody CIP1/2275R by WB in Human HeLa Cells. Western blot analysis of human HeLa cell lysate using p21 Rabbit Monoclonal Antibody. A prominent band is detected at approximately 21-22 kDa, consistent with the commonly observed electrophoretic migration of p21 (CDKN1A).



IHC testing of human urothelial carcinoma with Recombinant CDKN1A Antibody CIP1/2275R. Required HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.



SDS-PAGE analysis of purified, BSA-free recombinant CDNK1A antibody (clone CIP1/2275R) as confirmation of integrity and purity.

Description

Recombinant CDKN1A Antibody CIP1/2275R / p21 Rabbit Monoclonal Antibody recognizes cyclin-dependent kinase inhibitor 1A, a regulatory protein that helps coordinate cell cycle progression with cellular growth conditions and stress responses. Encoded by the CDKN1A gene, the protein is commonly called p21, WAF1, or CIP1. It belongs to the CIP/KIP family of cyclin-dependent kinase inhibitors, alongside p27 and p57. These proteins regulate proliferation through interactions with cyclin-dependent kinase complexes rather than through intrinsic enzymatic activity.

CDKN1A is a major downstream target of the tumor suppressor p53. Following DNA damage, activated p53 can stimulate CDKN1A transcription, increasing p21 abundance and restricting cell cycle progression. This checkpoint response helps prevent the replication of damaged DNA while repair mechanisms operate. However, CDKN1A expression is not exclusively dependent on p53. Growth factors, differentiation signals, transforming growth factor beta, and other regulatory pathways can also influence p21 expression, allowing the protein to participate in cell cycle control under diverse physiological conditions.

At the molecular level, p21 inhibits cyclin E-CDK2 and cyclin A-CDK2 complexes, limiting kinase activity required for progression through the G1/S transition and DNA synthesis. Its interactions with cyclin D-CDK4/6 complexes are more context-dependent because p21 can contribute to complex assembly while also influencing kinase activity. These interactions allow CDKN1A to integrate proliferative signals with mechanisms that restrict inappropriate cell division. Prolonged p21 expression can also contribute to cellular senescence, although additional regulatory changes are necessary to establish and maintain this growth-arrested state.

Beyond its effects on cyclin-dependent kinases, p21 binds proliferating cell nuclear antigen (PCNA), a protein involved in DNA replication and repair. This interaction provides another mechanism through which CDKN1A influences DNA synthesis and genome maintenance. Subcellular localization further shapes p21 activity. Nuclear p21 is generally associated with cell cycle inhibition, whereas cytoplasmic p21 can participate in signaling pathways that influence apoptosis and cell survival. Phosphorylation, ubiquitination, and regulated protein degradation affect its stability, localization, and interactions with other proteins.

CDKN1A is extensively investigated in cancer biology because altered checkpoint regulation contributes to tumor development and responses to therapy. Depending on cellular context, p21 can restrict proliferation or support survival under stressful conditions. NSJ Bioreagents offers this Recombinant CDKN1A Antibody to support investigations of p21 signaling, cellular senescence, DNA damage responses, and the molecular mechanisms governing cell cycle progression.

For additional research into CDKN1A-mediated cell cycle regulation and DNA damage responses, explore our p21 Antibody (V2431), featuring clone DCS-60.2.

Application Notes

Optimal dilution of the Recombinant CDKN1A Antibody CIP1/2275R / p21 Rabbit Monoclonal Antibody to be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant full-length human protein was used as the immunogen for the recombinant CDNK1A antibody.

Storage

Store the recombinant CDNK1A antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

p21 antibody, p21 WAF1 antibody, p21 CIP1 antibody, Cyclin-Dependent Kinase Inhibitor 1A antibody, CDK Inhibitor p21 antibody

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