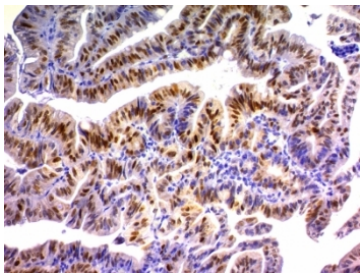
p21 Antibody DCS-602 / CDKN1A Monoclonal Antibody [clone DCS-60.2] (V2431)

Catalog No.	Formulation	Size
V2431-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2431-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2431SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2431IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

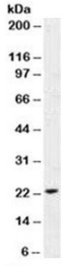
Citations (4)

Bulk quote request

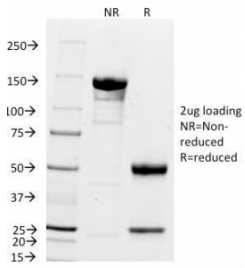
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	DCS-60.2
Purity	Protein G affinity chromatography
UniProt	P38936
Localization	Nuclear
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-2ug/ml Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-4ug/ml for 30 min at RT
Limitations	This p21 Antibody DCS-602 / CDKN1A Monoclonal Antibody is available for research use only.



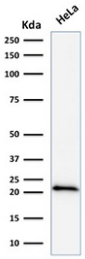
p21 Antibody DCS-60.2 by IHC in Human Colon Carcinoma. Immunohistochemical staining of FFPE human colon carcinoma tissue using CDKN1A Monoclonal Antibody. Brown nuclear immunoreactivity is observed in numerous tumor cells, with variable staining intensity. Nuclei are counterstained blue with hematoxylin.



p21 Antibody DCS-60.2 by WB in Human MCF7 Cells. Western blot analysis of human MCF7 cell lysate using CDKN1A Monoclonal Antibody. A prominent band is detected at approximately 22 kDa, consistent with the expected electrophoretic migration of p21 (CDKN1A).



SDS-PAGE Analysis of Purified, BSA-Free p21 Antibody (clone DCS-60.2). Confirmation of Integrity and Purity of the Antibody.



p21 Antibody DCS-60.2 by WB in Human HeLa Cells. Western blot analysis of human HeLa cell lysate using CDKN1A Monoclonal Antibody. A prominent band is detected at approximately 21-22 kDa, consistent with the expected electrophoretic migration of p21 (CDKN1A).

Description

p21 Antibody DCS-602 / CDKN1A Monoclonal Antibody targets cyclin-dependent kinase inhibitor 1A, a key regulator of cell cycle progression and cellular responses to DNA damage. Encoded by the CDKN1A gene, p21 is also known as WAF1 and CIP1 and belongs to the CIP/KIP family of cyclin-dependent kinase inhibitors. Its expression is frequently induced by the tumor suppressor p53 following genotoxic stress, helping coordinate cell cycle arrest with DNA repair. Through interactions with cyclin-dependent kinases and other regulatory proteins, p21 influences proliferation, differentiation, senescence, and cell survival.

One of the principal functions of p21 is inhibition of cyclin-CDK complexes that regulate progression through the G1 and S phases of the cell cycle. By suppressing CDK2 activity, p21 helps maintain the retinoblastoma protein in a hypophosphorylated state, restricting E2F-dependent transcription and entry into DNA synthesis. Its effects on cyclin D-associated CDK4 and CDK6 complexes are more context-dependent, as p21 can also facilitate their assembly and stabilization. These interactions allow p21 to participate in both inhibitory and regulatory aspects of cell cycle control.

Following DNA damage, activation of the p53 pathway can increase CDKN1A transcription and promote cell cycle arrest. This response provides additional time for repair mechanisms to restore genomic integrity before DNA replication or mitosis proceeds. However, p21 expression is not exclusively dependent on p53. Several transcription factors and

signaling pathways regulate CDKN1A independently, including mechanisms associated with cellular differentiation, growth factor responses, and stress signaling. Consequently, p21 expression can vary considerably across biological contexts.

Beyond cyclin-dependent kinase regulation, p21 interacts with proliferating cell nuclear antigen (PCNA), a protein involved in DNA replication and repair. This interaction can influence DNA synthesis and the coordination of replication-associated processes. The biological activities of p21 are also affected by its subcellular localization. Nuclear p21 is strongly associated with cell cycle inhibition, whereas cytoplasmic p21 can participate in signaling pathways that influence apoptosis and cellular survival. Phosphorylation and other post-translational modifications contribute to the regulation of its stability, localization, and interactions.

Altered p21 expression has been documented in numerous cancers, although its biological significance depends on tumor type, signaling context, and subcellular distribution. Its involvement in cell cycle arrest, senescence, and DNA damage responses makes CDKN1A an important subject in cancer biology and cell cycle research. NSJ Bioreagents offers this p21 Antibody for investigating mechanisms governing cellular proliferation, checkpoint regulation, and the response to genomic stress.

Explore our Cell Cycle Antibodies for additional research tools targeting proteins involved in cell cycle progression, checkpoint regulation, and DNA damage responses.

Application Notes

Optimal dilution of the p21 Antibody DCS-602 / CDKN1A Monoclonal Antibody to be determined by the researcher.

1. Staining of formalin-fixed tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min
2. 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

Human recombinant protein was used as the immunogen for the p21 antibody.

Storage

Store the p21 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

CDKN1A antibody, Cyclin-Dependent Kinase Inhibitor 1A antibody, p21 WAF1 antibody, p21 CIP1 antibody, Cyclin-Dependent Kinase Inhibitor p21 antibody

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