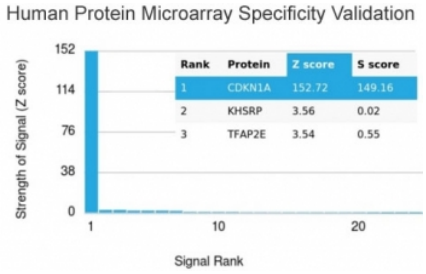
Recombinant p21 Antibody CIP1/4377R / CDKN1A Rabbit Monoclonal Antibody [clone CIP1/4377R] (V8615)

Catalog No.	Formulation	Size
V8615-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8615-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8615SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

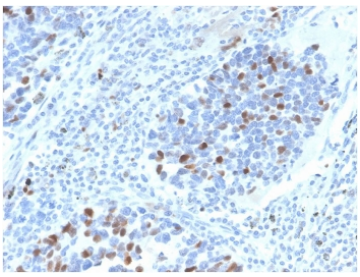
Recombinant RABBIT MONOCLONAL

Bulk quote request

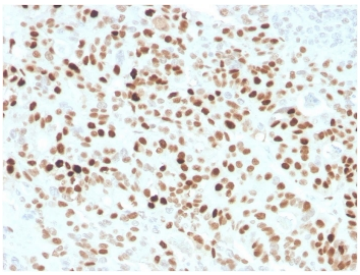
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	CIP1/4377R
Purity	Protein A affinity chromatography
UniProt	P38936
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Western blot: 2-4ug/ml
Limitations	This Recombinant p21 Antibody CIP1/4377R / CDKN1A Rabbit Monoclonal Antibody is available for research use only.



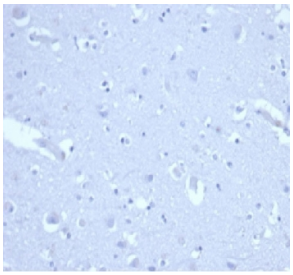
Recombinant p21 Antibody CIP1/4377R by HuProt Protein Microarray. Specificity analysis of CDKN1A Rabbit Monoclonal Antibody using a HuProt microarray containing more than 19,000 full-length human proteins. CDKN1A produced the strongest signal, with a Z-score of 152.72 and an S-score of 149.16. The next-highest signals were KHSRP (Z-score 3.56) and TFAP2E (Z-score 3.54), demonstrating strong preferential recognition of CDKN1A under the assay conditions.



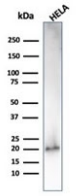
Recombinant p21 Antibody CIP1/4377R by IHC in Human Lung Carcinoma. Immunohistochemical staining of FFPE human lung carcinoma tissue using CDKN1A Rabbit Monoclonal Antibody. Brown nuclear immunoreactivity is observed in subsets of tumor cells, with variable staining intensity. Nuclei are counterstained blue with hematoxylin. Heat-induced epitope retrieval was performed in 10 mM Tris and 1 mM EDTA buffer (pH 9) for 20 minutes.



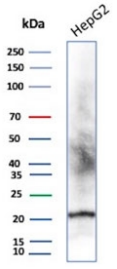
Recombinant p21 Antibody CIP1/4377R Human Colon Carcinoma Tissue IHC. Immunohistochemistry staining of FFPE human colon carcinoma with recombinant p21 antibody (clone CIP1/4377R). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



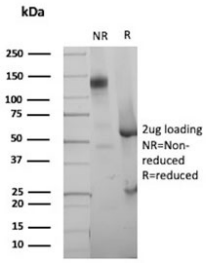
Recombinant p21 Antibody CIP1/4377R Brain Tissue Negative Control IHC. Immunohistochemistry staining of FFPE human brain tissue with recombinant p21 antibody (clone CIP1/4377R). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



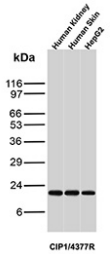
Western blot testing of human HeLa cell lysate with Recombinant p21 Antibody CIP1/4377R.



Recombinant p21 Antibody CIP1/4377R by WB in Human HeLa Cells. Western blot analysis of human HeLa cell lysate using CDKN1A Rabbit Monoclonal Antibody. A prominent band is detected at approximately 20-21 kDa, consistent with the commonly observed electrophoretic migration of p21 (CDKN1A).



SDS-PAGE analysis of purified, BSA-free recombinant p21 antibody (clone CIP1/4377R) as confirmation of integrity and purity.



p21 Antibody Multi-Tissue WB. Western blot analysis of p21 / CDKN1A (Cyclin-dependent kinase inhibitor 1) expression across human tissue and cell line lysates using p21 antibody clone CIP1/4377R. Lane 1: human kidney lysate, Lane 2: human skin lysate, Lane 3: HepG2 cell lysate. A band is detected at approximately 21-24 kDa, consistent with the predicted molecular weight of p21 (CDKN1A), a key regulator of cell cycle arrest and checkpoint control. The presence of signal across multiple sample types reflects the broad expression of p21 in response to cellular stress and growth regulatory signals.

Description

Recombinant p21 Antibody CIP1/4377R / CDKN1A Rabbit Monoclonal Antibody recognizes p21, a cyclin-dependent kinase inhibitor encoded by the CDKN1A gene. Also known as WAF1 and CIP1, p21 belongs to the CIP/KIP family of cell cycle regulators, which includes p27 (CDKN1B) and p57 (CDKN1C). The protein plays an important role in coordinating cell proliferation with DNA damage responses, differentiation signals, and cellular stress. Its activity is regulated through transcriptional mechanisms, protein interactions, post-translational modifications, and controlled degradation.

CDKN1A is a major transcriptional target of the tumor suppressor p53. Following DNA damage, p53 activation can increase p21 expression, leading to inhibition of cyclin-dependent kinase activity and cell cycle arrest. This response helps prevent the replication of damaged DNA while repair mechanisms operate. However, CDKN1A expression can also be induced independently of p53 through pathways involving transforming growth factor beta (TGF-beta), SP1 transcription factors, and other regulatory proteins. These mechanisms allow p21 to participate in cell cycle control under diverse physiological conditions.

At the molecular level, p21 binds cyclin E-CDK2 and cyclin A-CDK2 complexes, restricting their kinase activity and limiting progression through the G1/S transition. Its interactions with cyclin D-CDK4/6 complexes are more context-dependent, as p21 can contribute to complex assembly while also regulating kinase activity. Beyond cyclin-dependent kinase inhibition, p21 interacts with proliferating cell nuclear antigen (PCNA), linking its functions to DNA replication and repair. These interactions help coordinate cell cycle progression with the maintenance of genomic integrity.

The biological effects of p21 depend partly on its subcellular localization. Nuclear p21 is strongly associated with cell cycle inhibition, whereas cytoplasmic p21 can influence apoptosis-related signaling and cellular survival. Phosphorylation and other modifications affect its localization, stability, and interactions with regulatory proteins. Sustained p21 expression may contribute to cellular senescence, although its role varies with the nature of the initiating stress and the cellular environment.

CDKN1A is widely investigated in cancer biology because disruption of cell cycle checkpoints is a common feature of tumor development. Depending on cellular context, p21 can contribute to growth suppression or support survival under stressful conditions. NSJ Bioreagents offers this Recombinant p21 Antibody to support research into CDKN1A signaling, cell cycle checkpoints, cellular senescence, and mechanisms governing proliferation.

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 p21 Antibody CIP1/4377R / CDKN1A Rabbit Monoclonal Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 1-100 from the human protein was used as the immunogen for the Recombinant p21 Antibody CIP1/4377R.

Storage

Store the Recombinant p21 Antibody CIP1/4377R 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 CIP1 antibody, p21 WAF1 antibody

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