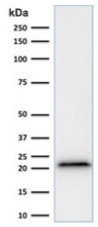
Recombinant p21 Antibody rCIP1/823 / CDKN1A Rabbit Monoclonal Antibody [clone rCIP1/823] (V3549)

Catalog No.	Formulation	Size
V3549-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3549-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3549SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3549IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

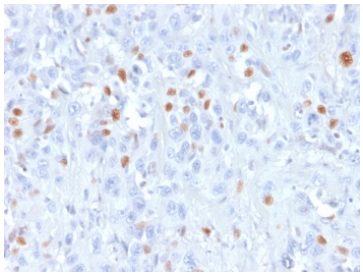
Recombinant MOUSE MONOCLONAL

Bulk quote request

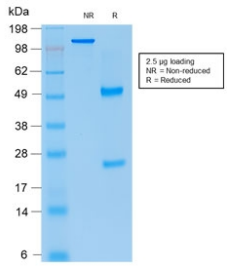
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rCIP1/823
Purity	Protein G affinity chromatography
UniProt	P38936
Localization	Nuclear
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Recombinant p21 Antibody rCIP1/823 / CDKN1A Rabbit Monoclonal Antibody is available for research use only.



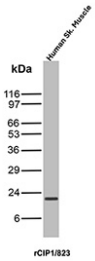
Recombinant p21 Antibody rCIP1/823 by WB in Human HeLa Cells. Western blot analysis of human HeLa cell lysate using CDKN1A Rabbit Monoclonal Antibody. A prominent band is detected at approximately 21-22 kDa, consistent with the commonly observed electrophoretic migration of p21 (CDKN1A).



Recombinant p21 Antibody rCIP1/823 by IHC in Human Urothelial Carcinoma. Immunohistochemical staining of human urothelial carcinoma tissue using CDKN1A Rabbit Monoclonal Antibody. Brown nuclear immunoreactivity is observed in scattered 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 10-20 minutes, followed by cooling at room temperature for 20 minutes.



SDS-PAGE analysis of purified, BSA-free recombinant p21 antibody (clone rCIP1/823) as confirmation of integrity and purity.



Recombinant p21 Antibody rCIP1/823 Human Skeletal Muscle Tissue WB. Western blot testing of human skeletal muscle tissue lysate with recombinant p21 antibody (clone rCIP1/823).

Description

Recombinant p21 Antibody rCIP1/823 / CDKN1A Rabbit Monoclonal Antibody recognizes p21, a cyclin-dependent kinase inhibitor encoded by the CDKN1A gene. Also known as WAF1, CIP1, and SDI1, p21 belongs to the CIP/KIP family of cell cycle regulators, which includes p27 and p57. It plays a central role in coordinating cell proliferation with DNA damage responses, differentiation, and cellular stress. Unlike enzymes that directly catalyze biochemical reactions, p21 primarily regulates cellular processes through interactions with cyclin-dependent kinases and other proteins involved in DNA replication and checkpoint control.

CDKN1A is among the best-characterized transcriptional targets of the tumor suppressor p53. Following DNA damage, activated p53 can stimulate CDKN1A expression, increasing p21 levels and restricting cell cycle progression. This response provides an opportunity for DNA repair before replication continues. However, p21 expression is not exclusively dependent on p53. Signaling pathways activated by transforming growth factor beta, differentiation factors, and other cellular stimuli can also regulate CDKN1A transcription, allowing p21 to participate in growth control under diverse physiological conditions.

At the molecular level, p21 inhibits cyclin E-CDK2 and cyclin A-CDK2 complexes, helping prevent inappropriate progression through the G1/S transition. Its interactions with cyclin D-CDK4/6 complexes are more context-dependent, as p21 can facilitate complex assembly while also influencing kinase activity. These regulatory interactions help integrate proliferative signals with checkpoint mechanisms. Sustained p21 expression can contribute to cellular senescence, although the establishment and maintenance of this state involve additional signaling pathways and transcriptional changes.

Beyond cyclin-dependent kinase regulation, p21 interacts with proliferating cell nuclear antigen (PCNA), an essential component of DNA replication and repair. This interaction can influence DNA synthesis independently of CDK inhibition. The biological functions of p21 are also affected by its subcellular localization. Nuclear p21 is primarily associated with

cell cycle arrest, whereas cytoplasmic p21 can influence apoptosis-related signaling and cellular survival. Phosphorylation, ubiquitination, and regulated degradation further determine its stability, localization, and activity.

CDKN1A is widely investigated in cancer research because abnormalities in cell cycle regulation and DNA damage signaling contribute to tumor development. Depending on cellular context, p21 may suppress proliferation or participate in mechanisms that promote survival during stress. NSJ Bioreagents offers this Recombinant p21 Antibody to support studies of checkpoint regulation, cellular senescence, and the molecular mechanisms governing cell 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 rCIP1/823 / CDKN1A 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 p21 antibody.

Storage

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

Alternate Names

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

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