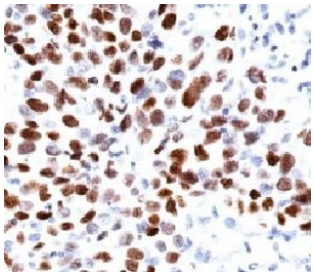
p21 Antibody / p21WAF1 [clone CIP1/823] (V2433)

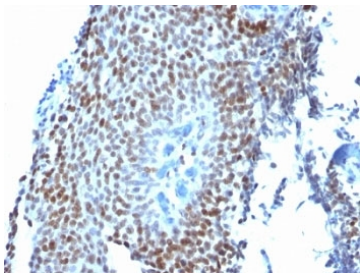
Catalog No.	Formulation	Size
V2433-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2433-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2433SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2433IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

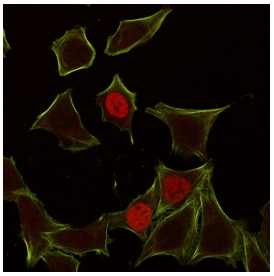
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	CIP1/823
Purity	Protein G affinity chromatography
UniProt	P38936
Localization	Nuclear
Applications	Immunofluorescence : 1-2ug/ml Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 2-4ug/ml for 30 min at RT
Limitations	This p21 antibody is available for research use only.



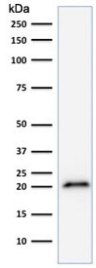
IHC: Formalin-fixed, paraffin-embedded human lung squamous cell carcinoma (SCC) stained with p21 antibody (clone CIP1/823).



IHC: Formalin-fixed, paraffin-embedded human bladder carcinoma stained with p21 antibody (clone CIP1/823).



Immunofluorescent staining of human HeLa cells with p21 antibody (red, clone CIP1/823) and Phalloiden (green).



Western blot testing of human HeLa cell lysate with p21 antibody (clone CIP1/823).

Description

p21 antibody clone CIP1/823 is a monoclonal antibody directed against p21, also known as p21WAF1, Cyclin-dependent kinase inhibitor 1 and CDKN1A. p21 is a nuclear protein that plays a critical role in regulating cell cycle progression, acting as an inhibitor of cyclin-CDK complexes. Its expression is tightly controlled by p53, linking p21 function to DNA damage responses, cell cycle arrest, and senescence. Because of its central role in cell cycle regulation and tumor suppression, p21 has become a widely studied protein in cancer biology, developmental research, and molecular cell biology. NSJ Bioreagents provides p21 antibody clone CIP1/823 as a reliable tool for research into cell proliferation, DNA repair, and oncogenesis.

p21 antibody clone CIP1/823 produces strong nuclear staining in tissues and cultured cells. Its expression is induced by DNA damage, where p21 serves as an effector of p53-mediated cell cycle checkpoints. Researchers use this antibody to investigate how cells respond to genotoxic stress, including exposure to ultraviolet light, ionizing radiation, and chemotherapeutic agents. Detection of p21 provides a clear marker for G1 phase arrest and helps clarify how cells prevent replication of damaged DNA.

In oncology, p21 antibody clone CIP1/823 has been widely applied to study tumor biology and therapeutic response. The presence or absence of p21 expression in tumors provides information about tumor suppressor pathways and potential sensitivity to treatment. While p21 expression can support tumor suppression, in certain contexts it has also been implicated in oncogenic processes, including resistance to apoptosis. Detection with clone CIP1/823 enables researchers to explore these dual roles in cancer progression.

Beyond cancer, p21 antibody clone CIP1/823 supports studies of senescence and aging. p21 is a key mediator of cellular senescence, a permanent arrest of cell proliferation that occurs in response to stress or telomere shortening. By staining for p21, researchers can identify senescent cell populations in aging tissues and investigate their contributions to age-related diseases.

In developmental biology, p21 antibody clone CIP1/823 has been used to analyze how p21 regulates proliferation during organogenesis. Controlled cell cycle arrest is essential for tissue differentiation, and p21 detection helps clarify its role in developmental timing and lineage specification.

This antibody is also valuable in regenerative medicine, where p21 expression can act as a barrier to regeneration by limiting proliferation of progenitor cells. By tracking p21 expression, clone CIP1/823 provides insights into how regeneration and repair are influenced by cell cycle regulators.

Validated in tissue-based and cell-based systems, p21 antibody clone CIP1/823 consistently delivers strong nuclear staining with minimal background. It has been extensively cited in cancer biology, cell cycle research, and aging studies. Alternate names include CDKN1A antibody, cyclin-dependent kinase inhibitor 1 antibody, and WAF1/CIP1 antibody.

Application Notes

Optimal dilution of the p21 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

Recombinant full-length human 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).