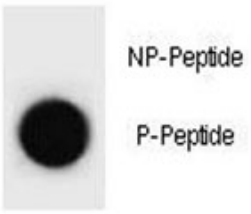
Phospho-p21 S78 Antibody / CDKN1A Phospho-Ser78 Antibody (F40069)

Catalog No.	Formulation	Size
F40069-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F40069-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Species Reactivity	Mouse
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P39689
Applications	Dot blot: 1:500
Limitations	This Phospho-p21 S78 Antibody / CDKN1A Phospho-Ser78 Antibody is available for research use only.



Dot blot analysis of Phospho-p21 S78 Antibody. 50ng of phos-peptide or nonphos-peptide per dot were spotted.

Description

Phospho-p21 S78 Antibody / CDKN1A Phospho-Ser78 Antibody recognizes p21 phosphorylated at serine 78, providing a means to investigate site-specific regulation of this cyclin-dependent kinase inhibitor. Encoded by CDKN1A, p21 is also known as WAF1 and CIP1 and belongs to the CIP/KIP family of cell cycle regulators. The protein coordinates cellular proliferation with DNA damage responses, differentiation, and stress signaling through interactions with cyclin-dependent kinases and proteins involved in DNA replication. Phosphorylation contributes to the regulation of p21 activity alongside transcriptional control and protein degradation.

CDKN1A is a major transcriptional target of the tumor suppressor p53. Following DNA damage, activated p53 can

stimulate p21 expression, restricting cell cycle progression and allowing additional time for DNA repair. However, p21 expression also responds to p53-independent signaling pathways associated with growth factors, differentiation, and cellular stress. These regulatory inputs allow p21 to participate in biological processes extending beyond the classical DNA damage checkpoint.

At the molecular level, p21 inhibits cyclin E-CDK2 and cyclin A-CDK2 complexes, helping regulate 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 influencing kinase activity. The protein also binds proliferating cell nuclear antigen (PCNA), linking its functions to DNA replication and repair. These interactions contribute to the coordination of cell cycle progression with maintenance of genomic integrity.

Post-translational modifications provide additional mechanisms for controlling CDKN1A function. Phosphorylation at different residues can influence p21 stability, subcellular localization, and interactions with regulatory proteins. Ser78 is a distinct phosphorylation site that can be examined independently of total p21 expression. However, the biological consequences of phosphorylation at this particular residue should not be assumed to match those established for other sites, including Thr145 or Ser146. Site-specific analysis can help distinguish individual phosphorylation events within the broader regulatory network controlling p21.

Research into p21 phosphorylation is relevant to cancer biology, cellular senescence, and stress responses because CDKN1A can influence both growth arrest and cell survival depending on cellular context. Understanding how individual modifications affect these activities remains an important area of investigation. NSJ Bioreagents offers this Phospho-p21 S78 Antibody to support studies of CDKN1A phosphorylation and the signaling mechanisms governing cell cycle regulation.

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

Titration of the Phospho-p21 S78 Antibody / CDKN1A Phospho-Ser78 Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

This phospho-p21 antibody was produced from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding pS78 of mouse p21Cip1.

Storage

Aliquot the phospho-p21 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

CDKN1A pS78 antibody, WAF1 phospho-Ser78 antibody, CIP1 phospho-Ser78 antibody, p21Cip1 phospho-S78 antibody

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