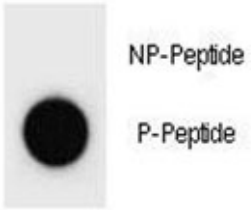
Phospho-p21 S125 Antibody / CDKN1A Phospho-Ser125 Antibody (F40068)

Catalog No.	Formulation	Size
F40068-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F40068-0.08ML	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 S125 Antibody / CDKN1A Phospho-Ser125 Antibody is available for research use only.



Dot blot analysis of Phospho-p21 S125 Antibody. 50ng of phos-peptide or nonphos-peptide per dot were spotted.

Description

Phospho-p21 S125 Antibody / CDKN1A Phospho-Ser125 Antibody recognizes the phosphorylated form of p21 at serine 125. Encoded by the CDKN1A gene, p21 is a member of the CIP/KIP family of cyclin-dependent kinase inhibitors and plays an important role in controlling cell cycle progression. Also known as WAF1 and CIP1, p21 regulates cellular proliferation through interactions with cyclin-CDK complexes and proteins involved in DNA replication. Phosphorylation provides an additional level of regulation that can influence the protein's stability, localization, and interactions with other cellular components.

CDKN1A is a major downstream target of the tumor suppressor p53. Following DNA damage, p53 activation can increase

p21 expression, resulting in inhibition of cyclin-dependent kinase activity and restriction of cell cycle progression. This checkpoint response helps coordinate DNA repair with cellular proliferation. However, p21 expression is also controlled through p53-independent pathways involving growth factors, differentiation signals, and cellular stress. These mechanisms allow p21 to participate in diverse biological processes beyond the canonical DNA damage response.

At the molecular level, p21 interacts with cyclin E-CDK2 and cyclin A-CDK2 complexes, limiting kinase activity associated with DNA synthesis and cell cycle progression. Its interactions with cyclin D-CDK4/6 complexes are more context-dependent, reflecting additional roles in complex assembly and regulation. p21 also binds proliferating cell nuclear antigen (PCNA), connecting its functions to DNA replication and repair. These interactions contribute to the coordination of cell cycle checkpoints and maintenance of genomic integrity.

Phosphorylation of p21 occurs at multiple residues and can produce distinct regulatory consequences depending on the modified site and cellular context. Such modifications may affect protein turnover, subcellular distribution, and interactions with cyclin-dependent kinases. Ser125 represents a site-specific phosphorylation event that can be investigated separately from changes in total CDKN1A abundance. However, the functional consequences of phosphorylation at this particular residue require careful distinction from those established for other p21 phosphorylation sites.

Research into p21 phosphorylation contributes to understanding how cellular signaling pathways influence proliferation, senescence, and responses to stress. Because p21 can participate in both growth suppression and survival-associated signaling, its regulation is relevant to cancer biology and cell cycle research. NSJ Bioreagents offers this Phospho-p21 S125 Antibody for investigating site-specific CDKN1A phosphorylation and its relationship to cellular checkpoint mechanisms.

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 S125 Antibody / CDKN1A Phospho-Ser125 Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

This Phospho-p21 S125 Antibody was produced from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding pS125 of mouse p21Cip1.

Storage

Aliquot the Phospho-p21 S125 Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Phospho-CDKN1A Ser125 antibody, p21 CIP1 pS125 antibody, p21 WAF1 pS125 antibody, Phosphorylated p21 Ser125 antibody

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