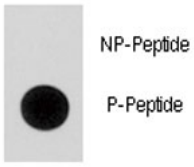
Phospho-p21 S130 Antibody / CDKN1A Phospho-Ser130 Antibody (F48422)

Catalog No.	Formulation	Size
F48422-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F48422-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P38936
Applications	Dot blot: 1:500
Limitations	This Phospho-p21 S130 Antibody / CDKN1A Phospho-Ser130 Antibody is available for research use only.



Dot blot analysis of Phospho-p21 S130 Antibody. 50ng of phos-peptide or nonphos-peptide per dot were spotted.

Description

Phospho-p21 S130 Antibody / CDKN1A Phospho-Ser130 Antibody recognizes p21 phosphorylated at serine 130, a regulatory modification associated with cyclin-dependent kinase signaling and cell cycle control. Encoded by the CDKN1A gene, p21 is also known as WAF1 and CIP1 and belongs to the CIP/KIP family of cyclin-dependent kinase inhibitors. The protein coordinates cellular proliferation with DNA damage responses, differentiation, and environmental stress. Its activity is regulated through transcriptional mechanisms, phosphorylation, protein interactions, and controlled degradation.

CDKN1A is a major transcriptional target of the tumor suppressor p53. Following DNA damage, activated p53 can increase p21 expression, leading to inhibition of cyclin-dependent kinase activity and restriction of cell cycle progression.

This response helps prevent replication of damaged DNA while repair mechanisms operate. However, p21 expression is also regulated independently of p53 through pathways involving growth factors, differentiation signals, and cellular stress. These mechanisms allow p21 to participate in growth control under diverse physiological conditions.

At the molecular level, p21 inhibits cyclin E-CDK2 and cyclin A-CDK2 complexes, limiting kinase activity required for progression through the G1/S transition and DNA synthesis. Its interactions with cyclin D-CDK4/6 complexes are more context-dependent because p21 can facilitate complex assembly while also influencing kinase activity. Beyond cyclin-dependent kinase regulation, p21 interacts with proliferating cell nuclear antigen (PCNA), connecting its functions to DNA replication and repair. These interactions help coordinate checkpoint regulation with maintenance of genomic integrity.

Phosphorylation at Ser130 provides an additional mechanism for regulating p21. This residue lies within the C-terminal regulatory region of the protein and has been implicated in phosphorylation-dependent control of p21 stability and turnover. Published research has associated Ser130 phosphorylation with cyclin-dependent kinase activity and subsequent changes in p21 abundance. These effects depend on cellular context and interactions with other regulatory pathways. Measuring Ser130 phosphorylation separately from total p21 expression can help distinguish changes in post-translational regulation from changes in protein abundance.

Altered p21 regulation is relevant to cancer biology because CDKN1A influences proliferation, cellular senescence, and responses to DNA damage. Phosphorylation-dependent changes in p21 stability may affect the duration of checkpoint signaling and the transition between growth-arrested and proliferative states. NSJ Bioreagents offers this Phospho-p21 S130 Antibody to support investigations into CDKN1A phosphorylation, protein turnover, and the signaling mechanisms governing cell cycle progression.

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 S130 Antibody / CDKN1A Phospho-Ser130 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 pS130 of human p21CIP1.

Storage

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

Alternate Names

Phospho-CDKN1A Ser130 antibody, p21 CIP1 pS130 antibody, p21 WAF1 pS130 antibody, Phosphorylated p21 Ser130 antibody

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