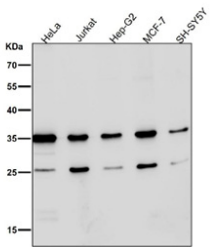
Phospho-Nucleophosmin (Ser125) Antibody / NPM1 [clone 32N71] (FY13010)

Catalog No.	Formulation	Size
FY13010	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

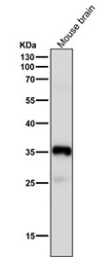
Recombinant RABBIT MONOCLONAL

Bulk quote request

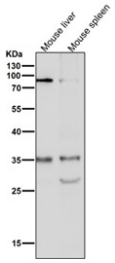
Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32N71
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P06748
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200
Limitations	This Phospho-Nucleophosmin (Ser125) antibody is available for research use only.



Western blot testing of human samples using the Phospho-Nucleophosmin (Ser125) antibody at 1:3000 dilution for 1 hour at room temperature. A predominant band is observed at ~35 kDa, consistent with phosphorylated NPM1 migrating slightly above its predicted 33 kDa. An additional ~26 kDa species is detected, consistent with a Ser125-containing proteolytic fragment of NPM1 that appears in some cell lysates.



Western blot testing of mouse brain tissue lysate using the Phospho-Nucleophosmin (Ser125) antibody at 1:3000 dilution for 1 hour at room temperature. A predominant band is observed at ~35 kDa, consistent with phosphorylated NPM1 migrating slightly above its predicted 33 kDa. An additional ~26 kDa species is detected, consistent with a Ser125-containing proteolytic fragment of NPM1 that appears in some cell lysates.



Western blot testing of mouse samples lysate using the Phospho-Nucleophosmin (Ser125) antibody at 1:3000 dilution for 1 hour at room temperature. A predominant band is observed at ~35 kDa, consistent with phosphorylated NPM1 migrating slightly above its predicted 33 kDa. An additional ~26 kDa species is detected, consistent with a Ser125-containing proteolytic fragment of NPM1 that appears in some cell lysates.

Description

Phospho-Nucleophosmin (Ser125) antibody detects Nucleophosmin when phosphorylated at serine 125, encoded by the NPM1 gene. Nucleophosmin is a multifunctional phosphoprotein that shuttles between the nucleolus, nucleus, and cytoplasm. It is involved in ribosome biogenesis, centrosome duplication, DNA repair, and regulation of tumor suppressors such as ARF and p53. Phosphorylation of Nucleophosmin at serine 125 plays a critical role in controlling its subcellular localization and activity, making Phospho-Nucleophosmin (Ser125) antibody a valuable reagent for studies of cell cycle progression, oncogenesis, and stress response.

Nucleophosmin is abundant in the nucleolus, where it functions in ribosomal RNA processing and assembly of ribosomal subunits. Phosphorylation at serine 125 occurs during mitosis, and research with Phospho-Nucleophosmin (Ser125) antibody has revealed that this modification promotes centrosome separation and spindle formation. By regulating Nucleophosmin function, phosphorylation ensures faithful chromosome segregation and prevents aneuploidy. Disruption of this modification impairs mitotic progression and contributes to genomic instability, highlighting its importance in cell division control.

NPM1 is also a key player in hematological malignancies. Mutations in NPM1, particularly frame-shift mutations in exon 12, are among the most frequent genetic alterations in acute myeloid leukemia. These mutations cause aberrant cytoplasmic localization of Nucleophosmin, altering its regulatory functions. Research using Phospho-Nucleophosmin (Ser125) antibody has shown that phosphorylation state influences localization and protein interactions, potentially modulating leukemogenesis. Furthermore, phosphorylation may interact with mutational effects, making it an area of interest in understanding leukemia biology and therapy.

Beyond cancer, Nucleophosmin phosphorylation contributes to stress responses, DNA repair, and apoptosis regulation. Phospho-Nucleophosmin (Ser125) antibody has been used to demonstrate that cellular stress induces phosphorylation at this site, altering interactions with ARF and p53. These findings suggest a broader role for Nucleophosmin phosphorylation in tumor suppression and cell fate decisions. Since Nucleophosmin participates in chromatin remodeling, this modification may also influence transcription and epigenetic regulation.

Phospho-Nucleophosmin (Ser125) antibody is widely applied in western blotting, immunofluorescence, and immunohistochemistry. Western blotting distinguishes phosphorylated from unmodified forms, while immunofluorescence visualizes dynamic localization changes during the cell cycle. Immunohistochemistry allows detection of phosphorylation patterns in tumor tissue, linking biochemical modification to disease phenotype. These experimental approaches provide insights into the regulation of Nucleophosmin in health and disease.

By supplying validated Phospho-Nucleophosmin (Ser125) antibody reagents, NSJ Bioreagents supports research into cancer biology, mitosis, and stress response. Detection of Nucleophosmin phosphorylation at serine 125 provides a precise tool to explore how this critical protein coordinates cell cycle regulation and tumor suppression.

Application Notes

Optimal dilution of the Phospho-Nucleophosmin (Ser125) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Nucleophosmin (S125) was used as the immunogen for the Phospho-Nucleophosmin (Ser125) antibody.

Storage

Store the Phospho-Nucleophosmin (Ser125) antibody at -20oC.