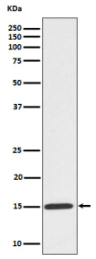
Phospho-Histone H3 (pSer10) Antibody / HIST1H3A [clone 31H82] (FY12171)

Catalog No.	Formulation	Size
FY12171	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
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31H82
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	P68431
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This Phospho-Histone H3 (pSer10) antibody is available for research use only.



Western blot analysis of Phospho-Histone H3 (S10) expression in HeLa treated Colcemid cell lysate, using Phospho-Histone H3 (pSer10) antibody.

Description

Phospho-Histone H3 (pSer10) antibody detects histone H3 phosphorylated at serine 10, a key post-translational modification regulating chromatin structure and transcription. Histone H3, encoded by HIST1H3A and related genes, is a core nucleosomal protein around which DNA is wrapped. Phosphorylation at Ser10 is tightly associated with chromosome condensation during mitosis and meiosis, as well as with transcriptional activation of immediate-early genes in response to extracellular signals.

Research using Phospho-Histone H3 (pSer10) antibody demonstrates its importance as a marker of cell cycle progression. Phosphorylation occurs during prophase and persists through metaphase, making it a robust biomarker of mitotic cells. For this reason, Ser10 phosphorylation is widely used to quantify cell proliferation in cancer biology, developmental studies, and drug discovery. Increased levels of phospho-H3 (Ser10) are often observed in tumors with high mitotic index, correlating with aggressive disease and poor prognosis.

Beyond proliferation, phosphorylation at Ser10 also contributes to transcriptional activation. Mitogen- and stress-activated kinases (MSK1/2), downstream of MAPK signaling, phosphorylate H3 at Ser10 in response to growth factors and stress stimuli. This modification promotes chromatin remodeling and transcription of immediate-early response genes such as c-Fos and c-Jun. By linking extracellular signals to transcriptional regulation, Ser10 phosphorylation integrates environmental inputs with gene expression control.

In neuroscience, Ser10 phosphorylation has been implicated in memory formation and synaptic plasticity, highlighting its role beyond the cell cycle. In immunology, inflammatory signals can trigger Ser10 phosphorylation, modulating expression of cytokines and stress-response genes. These diverse functions make phospho-H3 (Ser10) a valuable marker across multiple research fields.

Antibodies specific for phospho-Histone H3 (Ser10) are validated for immunohistochemistry, immunofluorescence, flow cytometry, and western blot. These reagents allow researchers to identify mitotic cells, quantify proliferation rates, and study chromatin modifications in response to stimuli. Clone-validated antibodies ensure reliable detection of phosphorylated H3 while avoiding cross-reactivity with unmodified histone H3.

NSJ Bioreagents provides this Phospho-Histone H3 (pSer10) antibody for use in cancer biology, epigenetics, and cell cycle research.

Application Notes

Optimal dilution of the Phospho-Histone H3 (pSer10) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Histone H3 (S10) was used as the immunogen for the Phospho-Histone H3 (pSer10) antibody.

Storage

Store the Phospho-Histone H3 (pSer10) antibody at -20oC.