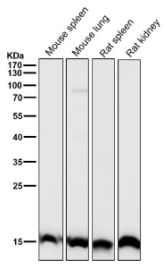
Histone H3 (tri methyl K27) antibody / HIST1H3A [clone 32H02] (FY12245)

Catalog No.	Formulation	Size
FY12245	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

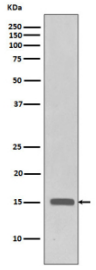
Recombinant RABBIT MONOCLONAL

Bulk quote request

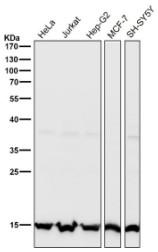
Availability	2-3 weeks
Species Reactivity	Human, Mouse
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32H02
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P68431
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This Histone H3 (tri methyl K27) antibody is available for research use only.



All lanes use the Histone H3 (tri methyl K27) antibody at 1:1K dilution for 1 hour at room temperature.



Western blot analysis of Histone H3 (tri methyl K27) expression in Hela cell lysate using Histone H3 (tri methyl K27) antibody.



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Description

Histone H3 (tri methyl K27) antibody detects histone H3 trimethylated at lysine 27 (H3K27me3), a hallmark of transcriptional repression and epigenetic silencing. Histone H3, encoded in part by HIST1H3A, is a core component of nucleosomes that package DNA into chromatin. Trimethylation of K27 is catalyzed primarily by the polycomb repressive complex 2 (PRC2), where EZH2 acts as the methyltransferase. This modification recruits polycomb group proteins to establish long-term gene silencing, influencing cell identity and development.

Research using Histone H3 (tri methyl K27) antibody highlights its importance in developmental biology. H3K27me3 marks promoters of genes that regulate differentiation, allowing pluripotent stem cells to maintain plasticity while silencing lineage-specific programs. During differentiation, changes in H3K27me3 distribution establish lineage-specific transcriptional landscapes. This modification is also involved in X-chromosome inactivation, imprinting, and developmental timing.

Aberrant H3K27 methylation is strongly implicated in cancer. Overexpression or mutation of EZH2 leads to abnormal accumulation of H3K27me3, silencing tumor suppressor genes and promoting malignancy. Conversely, loss of H3K27me3 due to mutations in PRC2 subunits can activate oncogenes and alter differentiation. Elevated or reduced H3K27me3 levels have been reported across lymphomas, sarcomas, and solid tumors, making it both a biomarker and therapeutic target. EZH2 inhibitors are now in clinical use, with antibody-based detection of H3K27me3 serving as a critical biomarker of drug activity.

In neurobiology, abnormal H3K27me3 patterns have been associated with neurodevelopmental syndromes, intellectual disability, and psychiatric conditions. Inflammatory pathways are also modulated by this histone mark, where silencing of cytokine promoters helps control immune responses.

Antibodies against H3K27me3 are validated for chromatin immunoprecipitation (ChIP), immunofluorescence, immunohistochemistry, and western blot. These reagents allow mapping of epigenetic silencing across genomes, supporting research in development, disease, and therapeutic interventions. Clone-based antibodies ensure high specificity for the trimethylated lysine, avoiding cross-reactivity with other methylated or acetylated residues.

NSJ Bioreagents provides this Histone H3 (tri methyl K27) antibody for epigenetics and cancer biology studies.

Application Notes

Optimal dilution of the Histone H3 (tri methyl K27) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Histone H3 (tri methyl K27) was used as the immunogen for the Histone H3 (tri methyl K27) antibody.

Storage

Store the Histone H3 (tri methyl K27) antibody at -20oC.