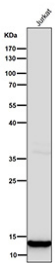
Histone H4 (mono methyl K20) Antibody / HIST1H4A [clone 31H81] (FY13242)

Catalog No.	Formulation	Size
FY13242	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

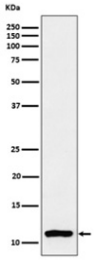
Recombinant RABBIT MONOCLONAL

Bulk quote request

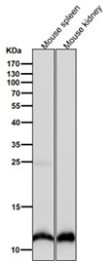
Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31H81
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P62805
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This Histone H4 (mono methyl K20) antibody is available for research use only.



Western blot testing of human Jurkat cell lysate using the Histone H4 (mono methyl K20) antibody at 1:3000 dilution for 1 hour at room temperature. Predicted molecular weight ~11 kDa.



Western blot testing of human HeLa cell lysate using the Histone H4 (mono methyl K20) antibody at 1:3000 dilution for 1 hour at room temperature. Predicted molecular weight ~11 kDa.



Western blot testing of mouse samples using the Histone H4 (mono methyl K20) antibody at 1:3000 dilution for 1 hour at room temperature. Predicted molecular weight ~11 kDa.

Description

Histone H4 (mono methyl K20) antibody detects Histone H4 monomethylated at lysine 20, encoded by the HIST1H4A gene. Histone H4 is a core nucleosomal protein that organizes chromatin and regulates access to DNA. Post translational modifications of Histone H4, including acetylation and methylation, govern gene expression and genome stability. Monomethylation at lysine 20 is a widely studied epigenetic modification associated with transcriptional activation and DNA damage response. Histone H4 (mono methyl K20) antibody provides researchers with a specific tool for investigating chromatin regulation and epigenetic control of transcription.

Histone H4 monomethylated at lysine 20 is catalyzed by the histone methyltransferase SETD8. Research using Histone H4 (mono methyl K20) antibody has shown that this mark is enriched at active gene promoters and regulatory regions, where it contributes to transcriptional competence. Unlike trimethylation at the same residue, which is associated with repression and heterochromatin formation, monomethylation correlates with active chromatin states. This makes the modification a critical epigenetic signal in fine tuning transcription.

In DNA damage response, Histone H4 K20 methylation recruits repair proteins to damaged sites, ensuring accurate repair of double strand breaks. Studies with Histone H4 (mono methyl K20) antibody have revealed that defects in this modification compromise genome stability and increase sensitivity to genotoxic stress. This underscores the functional significance of H4 K20 monomethylation in maintaining genome integrity.

Dysregulation of Histone H4 K20 methylation has been linked to cancer and developmental disorders. Research using Histone H4 (mono methyl K20) antibody has demonstrated that aberrant methylation patterns alter chromatin accessibility and transcriptional programs, promoting oncogenesis. Loss of SETD8 activity or abnormal regulation of this pathway has been associated with impaired differentiation and developmental abnormalities.

Histone H4 (mono methyl K20) antibody is used in chromatin immunoprecipitation, western blotting, and immunofluorescence. Chromatin immunoprecipitation maps distribution of this modification across the genome, western blotting distinguishes between modified and unmodified forms of Histone H4, and immunofluorescence visualizes nuclear distribution of H4 K20 monomethylation. These experimental approaches make the antibody valuable for studying transcriptional regulation and DNA repair.

By supplying validated Histone H4 (mono methyl K20) antibody reagents, NSJ Bioreagents supports research into epigenetics, genome stability, and disease biology. Detection of Histone H4 monomethylated at lysine 20 provides a marker for active transcription and DNA repair processes.

Application Notes

Optimal dilution of the Histone H4 (mono methyl K20) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Histone H4 (mono methyl K20) was used as the immunogen for the Histone H4 (mono methyl K20) antibody.

Storage

Store the Histone H4 (mono methyl K20) antibody at -20oC.

Ordering: Phone: 858.663.9055 | Fax: 1.267.821.0800 | Email: info@nsjbio.com