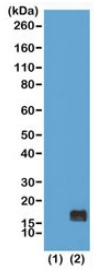
H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody [clone RM150] (R20214)

Catalog No.	Formulation	Size
R20214-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20214-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

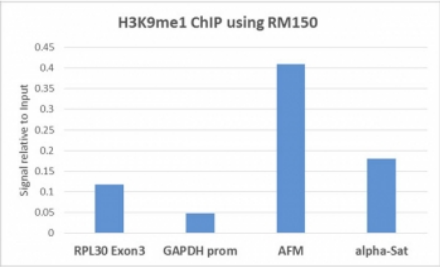
Recombinant RABBIT MONOCLONAL

Bulk quote request

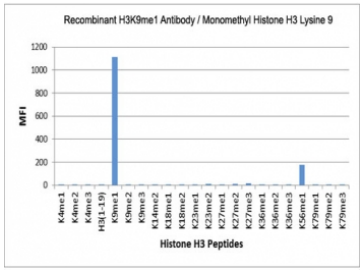
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM150
Purity	Protein A purified from animal origin-free supernatant
UniProt	P84243
Gene ID	8350
Applications	Western Blot : 0.2ug/ml-1ug/ml ChIP : 2ug/ml-10ug/mg of lysate Immunocytochemistry : 0.5-2ug/ml ELISA : 0.2-1ug/ml
Limitations	This recombinant H3K9me1 antibody is available for research use only.



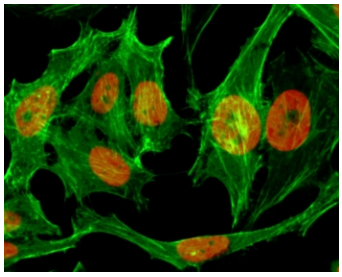
H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody (clone RM150) for WB. Western blot analysis of HIST1H3A / Histone H3 Lys9 monomethylation (K9me1) in (1) recombinant Histone H3.3 and (2) acid extracts of human HeLa cells using H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody. A band is detected at the predicted molecular weight of approximately 15 kDa corresponding to monomethylated Histone H3, consistent with chromatin transitioning toward repressive heterochromatin states.



H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody (clone RM150) for ChIP. Chromatin immunoprecipitation analysis of HIST1H3A / Histone H3 Lys9 monomethylation (K9me1) in human HeLa cells using H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody (5 ug). Quantitative PCR shows enrichment at AFM and alpha-satellite regions relative to GAPDH promoter, with moderate signal at RPL30 Exon3, consistent with H3K9me1 marking chromatin transitioning toward repressive heterochromatin states while retaining regulatory flexibility.



H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody (clone RM150) specificity analysis. Peptide binding assay demonstrating selective recognition of HIST1H3A / Histone H3 Lys9 monomethylation (K9me1). Strong signal is observed exclusively with the K9me1 peptide, while no detectable reactivity is seen with non-modified Lys9, dimethylated (K9me2), trimethylated (K9me3), or other methylated histone H3 peptides, confirming high specificity for the monomethylated Lys9 state associated with chromatin transitioning toward heterochromatin.



ICC/IF testing of human HeLa cells treated with sodium butyrate using recombinant H3K9me1 antibody (red). Actin filaments have been labeled with fluorescein phalloidin (green).

Description

Histone H3 (HIST1H3A) methylation at lysine 9 is a central regulator of chromatin repression and heterochromatin formation. Monomethylation at lysine 9 represents an early and reversible stage in the establishment of repressive chromatin. H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody (clone RM150) is designed to detect Histone H3 monomethylated at lysine 9, providing a marker of chromatin transitioning toward repression while retaining regulatory flexibility. This antibody is part of a broader collection of Histone H3 antibodies used to study chromatin structure, histone modifications, and epigenetic regulation.

HIST1H3A antibody, also referred to as Histone H3 antibody and H3K9me1 antibody in the literature, recognizes a modification that precedes the formation of more stable repressive marks such as H3K9me2 and H3K9me3. Unlike these higher methylation states, which are strongly associated with constitutive heterochromatin, H3K9me1 reflects an intermediate chromatin configuration that can still support dynamic regulatory changes.

This recombinant rabbit monoclonal clone RM150 antibody is uniquely positioned for studies of chromatin state transitions rather than fixed repression. H3K9 monomethylation is commonly found at genomic regions undergoing epigenetic remodeling, including developmentally regulated genes and loci responding to environmental or signaling cues.

At the molecular level, H3K9me1 can act as a substrate for further methylation by histone methyltransferases, enabling progression toward fully repressed chromatin states. It also contributes to recruitment of chromatin-associated proteins that initiate silencing while maintaining the potential for reversal.

This modification frequently coexists with activating marks in transitional chromatin, highlighting its role in balancing gene activation and repression. It serves as an indicator of chromatin poised for silencing rather than permanently inactive genomic regions.

In western blot applications, the antibody detects Histone H3 at approximately 15 kDa, with signal corresponding to

monomethylated chromatin associated with early-stage repression. Detection reflects transitional chromatin states rather than active transcription or stable heterochromatin.

At the cellular level, H3K9 monomethylation localizes to the nucleus and is associated with regions undergoing regulatory silencing transitions. This distinguishes it from acetylation marks linked to activation and from higher-order methylation states that define stable heterochromatin.

This antibody supports detection of Lys9-monomethylated Histone H3, enabling investigation of chromatin state transitions, early repression mechanisms, and epigenetic regulation of gene silencing.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A monomethyl-peptide corresponding to Monomethyl-Histone H3 (Lys9) was used as the immunogen for this H3K9me1 Antibody / HIST1H3A Heterochromatin Transition Antibody.

Storage

Store the recombinant H3K9me1 antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

Histone H3 Lys9 monomethylation antibody, H3K9me1 chromatin transition antibody, histone H3 mono methyl Lys9 antibody, H3K9 monomethyl histone antibody