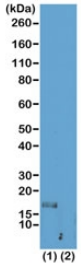
H3K56me1 Antibody / HIST1H3A Chromatin Assembly Intermediate Antibody [clone RM180] (R20237)

Catalog No.	Formulation	Size
R20237-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20237-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

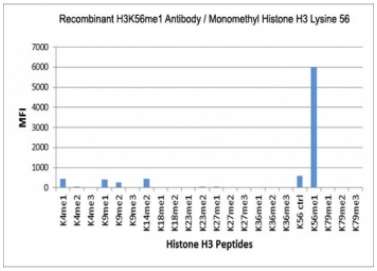
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM180
Purity	Protein A purified from animal origin-free supernatant
UniProt	P84243
Gene ID	8350
Applications	Western Blot : 1-2ug/ml ELISA : 0.2-1ug/ml
Limitations	This recombinant H3K56me1 antibody is available for research use only.



H3K56me1 Antibody / HIST1H3A Chromatin Assembly Intermediate Antibody (clone RM180) for WB. Western blot analysis of HIST1H3A / Histone H3 Lys56 monomethylation (K56me1) in (1) acid extracts of human HeLa cells and (2) recombinant Histone H3.3 using H3K56me1 Antibody / HIST1H3A Chromatin Assembly Intermediate Antibody. A band is detected at the predicted molecular weight of approximately 15 kDa corresponding to monomethylated Histone H3, consistent with nucleosome-associated chromatin assembly intermediates and structural chromatin states.



H3K56me1 Antibody / HIST1H3A Chromatin Assembly Intermediate Antibody (clone RM180) specificity analysis. Peptide binding assay demonstrating selective recognition of HIST1H3A / Histone H3 Lys56 monomethylation (K56me1). Strong signal is observed exclusively with the K56me1 peptide, while no detectable reactivity is seen with non-modified Lys56 (K56Ctrl) or other methylated histone H3 peptides, confirming high specificity for the monomethylated Lys56 state associated with chromatin assembly and nucleosome organization.

Description

Histone H3 (HIST1H3A) methylation at lysine 56 represents a chromatin modification associated with nucleosome organization and chromatin assembly dynamics. H3K56me1 Antibody / HIST1H3A Chromatin Assembly Intermediate Antibody (clone RM180) is designed to detect Histone H3 monomethylated at lysine 56, providing a marker of structural chromatin states associated with nucleosome stability and organization. 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 H3K56me1 antibody in the literature, recognizes a modification located within the globular domain near the DNA entry-exit region of the nucleosome. This positioning distinguishes Lys56 methylation from tail-based modifications and contributes to its role in regulating histone-DNA interactions.

This recombinant rabbit monoclonal clone RM180 antibody is uniquely positioned for studies of chromatin assembly intermediates rather than replication-driven chromatin incorporation. While H3K56ac marks newly synthesized histones during DNA replication, H3K56me1 reflects chromatin configurations associated with nucleosome organization and structural stability independent of replication timing.

At the molecular level, H3K56 monomethylation may influence nucleosome positioning and chromatin compaction by modulating interactions between histone proteins and DNA. It contributes to maintenance of chromatin architecture rather than promoting chromatin relaxation or transcriptional activation.

This modification provides insight into structural chromatin states that are not directly tied to transcriptional activity or repression but instead reflect nucleosome organization and chromatin integrity. It represents a distinct regulatory layer within chromatin biology.

In western blot applications, the antibody detects Histone H3 at approximately 15 kDa, with signal corresponding to monomethylated chromatin associated with structural chromatin states. Detection reflects nucleosome organization rather than replication-associated assembly or transcriptional processes.

At the cellular level, H3K56 monomethylation localizes to the nucleus and is associated with chromatin regions maintaining structural integrity. This distinguishes it from acetylation at the same residue and from transcription-associated histone modifications.

This antibody supports detection of Lys56-monomethylated Histone H3, enabling investigation of chromatin assembly intermediates, nucleosome organization, and epigenetic regulation of chromatin structure.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H3K56me1 Antibody / HIST1H3A Chromatin Assembly Intermediate Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A monomethyl-peptide corresponding to Monomethyl-Histone H3 (Lys56) was used as the immunogen for this H3K56me1 Antibody / HIST1H3A Chromatin Assembly Intermediate Antibody.

Storage

Store the recombinant H3K56me1 antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

Histone H3 Lys56 monomethylation antibody, H3K56me1 chromatin assembly antibody, histone H3 mono methyl Lys56 antibody, H3K56 monomethyl histone antibody