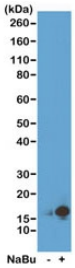
H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody [clone RM161] (R20208)

Catalog No.	Formulation	Size
R20208-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20208-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

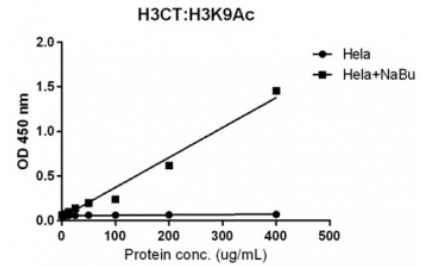
Recombinant RABBIT MONOCLONAL

Bulk quote request

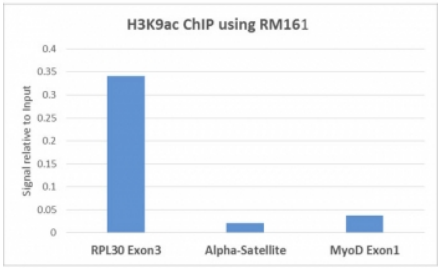
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM161
Purity	Protein A purified from animal origin-free supernatant
UniProt	P84243
Gene ID	8350
Applications	Western blot: 0.25-1ug/ml Immunocytochemistry: 0.5-2ug/ml ChIP: 2ug/ml-10ug/mg of lysate Immunohistochemistry: 0.1-1ug/ml (1) ELISA: 0.5-1ug/ml
Limitations	This H3K9ac antibody is available for research use only.



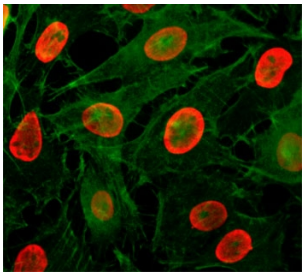
H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody (clone RM161) for WB. Western blot analysis of HIST1H3A / Histone H3 Lys9 acetylation in acid extracts of human HeLa cells untreated (-) and sodium butyrate-treated (+) using H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody. A band is detected at the predicted molecular weight of approximately 15 kDa corresponding to acetylated Histone H3, with increased signal in treated cells consistent with histone deacetylase inhibition and enhanced chromatin accessibility.



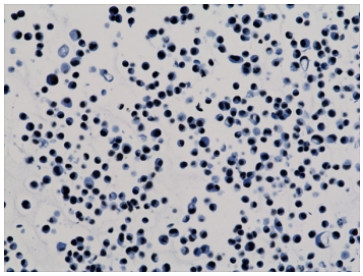
Sandwich ELISA with acetylated Histone H3 at Lys 9 using HeLa whole cell lysate, treated or untreated with sodium butyrate, anti-H3CT (RM188, 1 ug/ml) as the capture and biotinylated recombinant H3K9ac antibody (RM161, 1 ug/ml) as the detect.



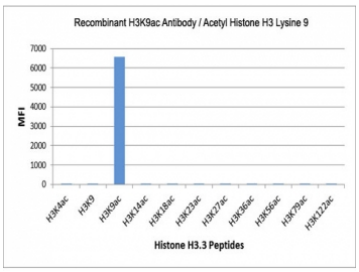
H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody (clone RM161) for ChIP. Chromatin immunoprecipitation analysis of HIST1H3A / Histone H3 Lys9 acetylation in human HeLa cells using H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody (5 ug). Quantitative PCR shows enrichment at the actively transcribed RPL30 Exon3 locus compared to lower signal at alpha-satellite heterochromatin and moderate signal at MyoD Exon1, consistent with H3K9ac marking accessible chromatin and transcriptionally active genomic regions.



H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody (clone RM161) for IF. Immunofluorescence analysis of HIST1H3A / Histone H3 Lys9 acetylation in sodium butyrate-treated human HeLa cells using H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody (red). Strong nuclear staining is observed across cell populations, consistent with increased lysine acetylation and open chromatin states following histone deacetylase inhibition, while interphase nuclei show diffuse euchromatic signal. Actin filaments are labeled with fluorescein phalloidin (green), outlining cellular morphology and providing contrast to the nuclear acetylation signal.



ICC testing of human HepG2 cells with recombinant H3K9ac antibody.



H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody (clone RM161) specificity analysis. Peptide binding assay demonstrating selective recognition of HIST1H3A / Histone H3 Lys9 acetylation (K9ac). Strong signal is observed exclusively with the K9ac peptide, while no detectable reactivity is seen with unmodified Histone H3 or acetylation at Lys4, Lys14, Lys18, Lys23, Lys27, Lys36, Lys56, Lys79, or Lys122, confirming high specificity for the Lys9 acetylation site.

Description

Histone H3 (HIST1H3A) acetylation at lysine 9 is a key modification associated with open chromatin and increased DNA accessibility across the genome. H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody (clone RM161) is designed to detect Histone H3 acetylated at lysine 9 as a structural indicator of accessible chromatin states and nucleosome relaxation. 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 H3K9ac antibody in the literature, recognizes a modification that reduces electrostatic interactions between histones and DNA. This results in a more relaxed chromatin

configuration that facilitates binding of transcription factors, chromatin remodelers, and regulatory proteins. H3K9 acetylation is therefore widely associated with accessible regions of the genome.

This recombinant rabbit monoclonal clone RM161 antibody is uniquely positioned for studies of chromatin accessibility rather than strictly promoter activation or transcriptional priming. While H3K9ac is present at promoters, it is also broadly distributed across accessible chromatin regions, making it a useful marker for identifying genome-wide regulatory landscapes.

At the molecular level, H3K9 acetylation promotes nucleosome destabilization and enhances recruitment of chromatin remodeling complexes that facilitate DNA accessibility. This distinguishes it from more functionally restricted marks such as H3K27ac, which is primarily associated with enhancer elements, or H3K36ac, which is linked to transcription elongation.

In western blot applications, the antibody detects Histone H3 at approximately 15 kDa, with signal corresponding to acetylated chromatin across accessible genomic regions. Detection reflects global chromatin accessibility rather than specific transcriptional stages or regulatory checkpoints.

At the cellular level, H3K9 acetylation localizes to the nucleus and is enriched in euchromatic regions characterized by open chromatin. This pattern supports its use as a structural marker of chromatin accessibility rather than a strictly functional marker of transcription initiation.

This antibody supports detection of Lys9-acetylated Histone H3, enabling investigation of chromatin accessibility, nucleosome dynamics, and genome-wide regulatory architecture.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

1. A pH6 Citrate buffer or pH9 Tris/EDTA buffer HIER step is recommended for testing of FFPE tissue sections.

Immunogen

An acetyl-peptide corresponding to the Acetyl-Histone H3 (Lys9) was used as the immunogen for this H3K9ac Antibody / HIST1H3A Chromatin Accessibility Marker Antibody.

Storage

Store the recombinant H3K9ac antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

Histone H3 Lys9 acetylation antibody, H3K9ac open chromatin antibody, histone H3 acetyl Lys9 antibody, chromatin accessibility histone antibody

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