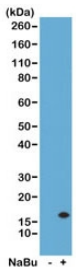
H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody [clone RM130] (R20199)

Catalog No.	Formulation	Size
R20199-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20199-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

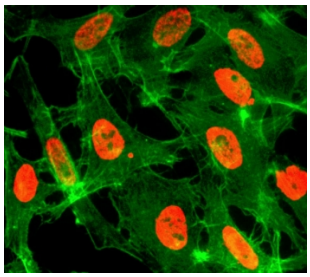
Recombinant RABBIT MONOCLONAL

Bulk quote request

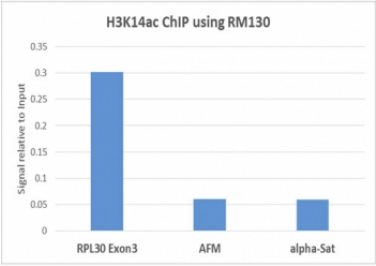
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM130
Purity	Protein A purified from animal origin-free supernatant
UniProt	P84243
Gene ID	8350
Applications	Western blot: 0.5-2ug/ml Immunocytochemistry: 0.5-2ug/ml ChIP: 2-10ug/mg of lysate ELISA: 0.2-1ug/ml
Limitations	This H3K14ac antibody is available for research use only.



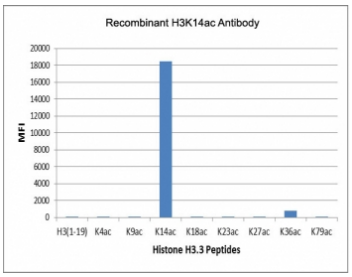
H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody (clone RM130) for WB. Western blot analysis of HIST1H3A / Histone H3 Lys14 acetylation in acid extracts of human HeLa cells untreated (-) and sodium butyrate-treated (+) using H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation 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.



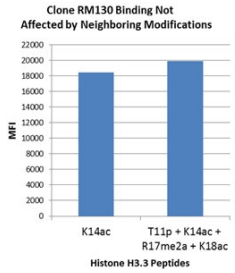
H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody (clone RM130) for IF. Immunofluorescence analysis of HIST1H3A / Histone H3 Lys14 acetylation in sodium butyrate-treated human HeLa cells using H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody (red). Strong nuclear staining is observed across cell populations, consistent with increased lysine acetylation and open chromatin states following histone deacetylase inhibition, while nuclei display diffuse euchromatic signal. Actin filaments are labeled with fluorescein phalloidin (green), outlining cell morphology and providing contrast to the nuclear acetylation signal.



H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody (clone RM130) for ChIP. Chromatin immunoprecipitation analysis of HIST1H3A / Histone H3 Lys14 acetylation in human HeLa cells using H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody (5 ug). Quantitative PCR shows enrichment at the actively transcribed RPL30 Exon3 locus compared to lower signal at AFM and alpha-satellite regions, consistent with H3K14ac marking open chromatin and transcriptionally active genomic regions.



The recombinant H3K14ac antibody specifically reacts to Histone H3 acetylated at Lysine 14 (K14ac). No cross reactivity with acetylated Lysine 4 (K4ac), 9 (K9ac), 18 (K18ac), 23 (K23ac), 27 (K27ac), 36 (K36ac), or 79 (K79ac) in Histone H3.



The binding specificity of recombinant H3K14ac antibody to Histone H3 acetylated at Lysine 14 (K14ac) is not affected by the modification of neighboring amino acids.

Description

Histone H3 (HIST1H3A) is a core nucleosomal protein that undergoes acetylation at specific lysine residues to regulate chromatin structure and gene expression. Acetylation at lysine 14 is a key modification associated with open chromatin architecture and transcriptionally permissive genomic regions. H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody (clone RM130) is designed to detect Histone H3 acetylated at lysine 14, providing a robust marker of chromatin accessibility and regulatory activation. 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 H3K14ac antibody in the literature, recognizes a modification catalyzed by histone acetyltransferases that neutralizes the positive charge of lysine residues. This reduces histone-DNA affinity and promotes nucleosome relaxation, allowing increased access of transcription factors and chromatin remodeling complexes. H3K14 acetylation is enriched in euchromatic regions and is frequently associated with genes undergoing active transcription or regulatory activation.

This recombinant rabbit monoclonal clone RM130 antibody is uniquely positioned as a chromatin accessibility marker that

complements but remains distinct from H3K9ac. While H3K9ac is strongly promoter-associated, H3K14ac is more broadly linked to global chromatin opening and regulatory region accessibility, making it particularly useful for identifying permissive chromatin environments across the genome.

Importantly, this antibody specifically detects Lys14-acetylated Histone H3 and is not affected by neighboring modifications. It shows no cross-reactivity with acetylation at Lys4, Lys9, Lys18, Lys23, Lys27, Lys36, Lys56, or Lys79, ensuring precise and site-specific detection of the K14ac modification in complex chromatin contexts.

At the molecular level, H3K14 acetylation facilitates recruitment of bromodomain-containing proteins, transcriptional co-activators, and ATP-dependent chromatin remodeling complexes. These interactions promote formation of accessible chromatin domains that support transcriptional activation and regulatory responsiveness.

In western blot applications, the antibody detects Histone H3 at approximately 15 kDa, with signal corresponding to acetylated chromatin associated with accessible genomic regions. Detection reflects chromatin accessibility rather than strictly promoter activity or transcriptional elongation.

At the cellular level, H3K14 acetylation localizes to the nucleus and is enriched in euchromatic regions characterized by open chromatin and active regulatory potential. This distribution distinguishes it from repressive histone marks and mitosis-associated modifications.

This antibody supports detection of Lys14-acetylated Histone H3, enabling detailed investigation of chromatin accessibility, regulatory region activation, and epigenetic control of gene expression.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An acetyl-peptide corresponding to Acetyl-Histone H3 (Lys14) was used as the immunogen for this H3K14ac Antibody / HIST1H3A Chromatin Accessibility Activation Antibody.

Storage

Store the recombinant H3K14ac antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

Histone H3 Lys14 acetylation antibody, H3K14ac chromatin activation antibody, histone H3 acetyl Lys14 antibody, open chromatin histone antibody

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