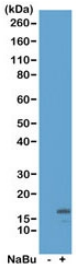
H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator Antibody [clone RM166] (R20209)

Catalog No.	Formulation	Size
R20209-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20209-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

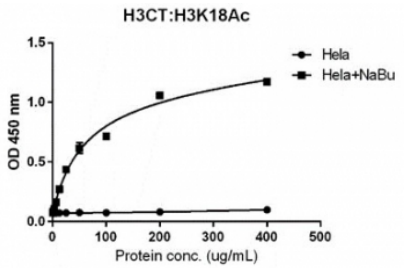
Recombinant RABBIT MONOCLONAL

Bulk quote request

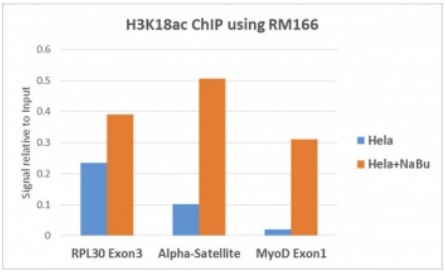
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM166
Purity	Protein A purified from animal origin-free supernatant
UniProt	P84243
Gene ID	8350
Applications	Western blot: 0.5-2ug/ml Immunocytochemistry: 0.5-2ug/ml ChIP: 2ug/ml-10ug/mg of lysate Immunohistochemistry: 1-10ug/ml (1) ELISA: 0.2-1ug/ml
Limitations	This H3K18ac antibody is available for research use only.



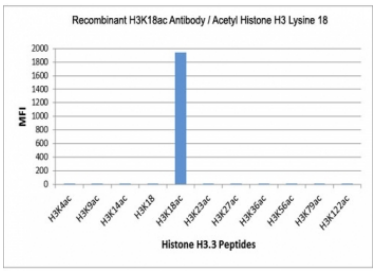
H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator Antibody (clone RM166) for WB. Western blot analysis of HIST1H3A / Histone H3 Lys18 acetylation in acid extracts of human HeLa cells untreated (-) and sodium butyrate-treated (+) using H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator 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 co-activator-associated transcriptional activation.



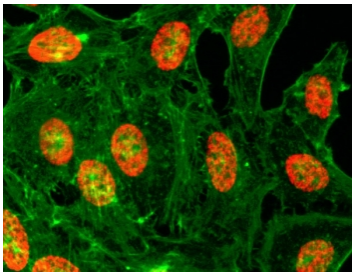
Sandwich ELISA with acetylated Histone H3 at Lys 18 using human HeLa cell lysate, treated or untreated with sodium butyrate, using anti-Histone H3CT (RM188, 1 ug/ml) as the capture and biotinylated recombinant H3K18ac antibody (RM166, 2 ug/ml) as the detect.



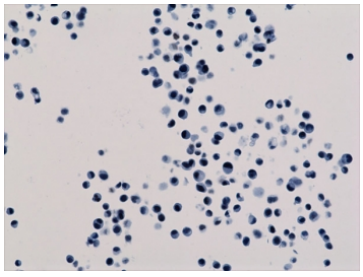
H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator Antibody (clone RM166) for ChIP. Chromatin immunoprecipitation analysis of HIST1H3A / Histone H3 Lys18 acetylation in human HeLa cells untreated and sodium butyrate-treated using H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator Antibody (5 ug). Quantitative PCR shows increased enrichment at the actively transcribed RPL30 Exon3 locus and elevated signal at MyoD Exon1 following treatment, with lower enrichment at alpha-satellite regions, consistent with H3K18ac marking co-activator-associated transcriptional activation and enhanced regulatory chromatin under histone deacetylase inhibition.



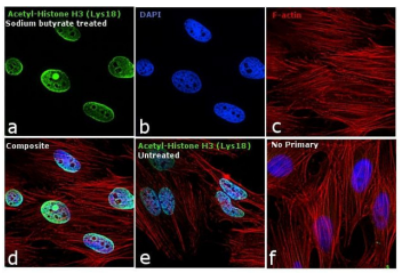
H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator Antibody (clone RM166) specificity analysis. Peptide binding assay demonstrating selective recognition of HIST1H3A / Histone H3 Lys18 acetylation (K18ac). Strong signal is observed exclusively with the K18ac peptide, while no detectable reactivity is seen with unmodified Histone H3 or acetylation at Lys4, Lys9, Lys14, Lys23, Lys27, Lys36, Lys56, Lys79, or Lys122, confirming high specificity for the Lys18 acetylation site associated with transcriptional activation.



ICC/IF test of HeLa cells treated with sodium butyrate using H3K18ac antibody (red). Actin filaments have been labeled with fluorescein phalloidin (green).



ICC staining of human HepG2 cells using recombinant H3K18ac antibody.



Acetyl-Histone H3 (Lys18) Antibody sodium butyrate-treated HeLa cells IF. Immunofluorescence analysis of acetylated Histone H3 (Lys18) in human HeLa cells using Acetyl-Histone H3 (Lys18) monoclonal antibody RM166. The acetyl-Histone H3 (Lys18) antibody signal (green) shows strong nuclear localization in sodium butyrate-treated cells, consistent with increased histone acetylation. F-actin is visualized in red, and nuclei are counterstained with DAPI (blue). Untreated cells show reduced nuclear signal compared to treated cells, confirming acetylation-dependent staining. No primary antibody control shows absence of green signal, indicating specificity of staining.

Description

Histone H3 (HIST1H3A) is a core nucleosomal protein that undergoes acetylation at specific lysine residues to regulate chromatin structure and transcriptional activity. Acetylation at lysine 18 is a key modification associated with transcriptional activation and co-activator-mediated gene regulation. H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator Antibody (clone RM166) is designed to detect Histone H3 acetylated at lysine 18, providing a marker of actively engaged transcriptional machinery. 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 H3K18ac antibody in the literature, recognizes a modification frequently catalyzed by histone acetyltransferases such as p300 and CBP. These enzymes play central roles in transcriptional activation by remodeling chromatin and recruiting transcriptional co-activator complexes that facilitate assembly of RNA polymerase II and associated regulatory proteins.

This recombinant rabbit monoclonal clone RM166 antibody is uniquely positioned for studies of transcriptional activation driven by co-activator recruitment rather than chromatin accessibility alone. While marks such as H3K9ac and H3K14ac are associated with open chromatin, H3K18ac more directly reflects active engagement of transcriptional complexes and signal-dependent gene activation events.

At the molecular level, H3K18 acetylation promotes recruitment of bromodomain-containing proteins and transcriptional co-activators that stabilize transcriptional complexes at regulatory regions. It is often enriched at promoters and regulatory elements undergoing rapid activation in response to signaling pathways, including stress responses and developmental cues.

H3K18 acetylation frequently occurs in combination with other activating histone marks, forming part of a coordinated epigenetic signature that defines transcriptionally active chromatin. Its presence indicates not only chromatin accessibility but also active regulatory engagement and transcriptional output.

In western blot applications, the antibody detects Histone H3 at approximately 15 kDa, with signal corresponding to acetylated chromatin in transcriptionally active cells. Detection reflects co-activator-driven gene activation rather than structural chromatin changes alone.

At the cellular level, H3K18 acetylation localizes to the nucleus and is enriched in euchromatic regions associated with active transcription and regulatory signaling. This distinguishes it from elongation-associated and enhancer-specific acetylation marks.

This antibody supports detection of Lys18-acetylated Histone H3, enabling investigation of transcriptional activation, co-activator recruitment, and epigenetic regulation of gene expression.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator 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 (Lys18) was used as the immunogen for this H3K18ac Antibody / HIST1H3A Transcription Activation Co-Activator Antibody.

Storage

Store the recombinant H3K18ac antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

Histone H3 Lys18 acetylation antibody, H3K18ac activation antibody, histone H3 acetyl Lys18 antibody, transcription co-activator histone antibody

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