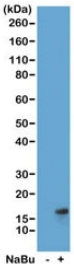
H3K27ac Antibody / HIST1H3A Enhancer Activation Marker Antibody [clone RM172] (R20210)

Catalog No.	Formulation	Size
R20210-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20210-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

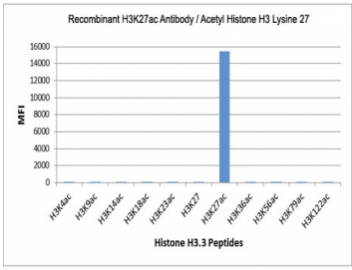
Recombinant RABBIT MONOCLONAL

Bulk quote request

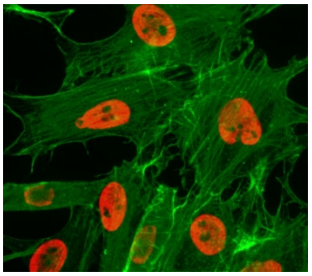
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM172
Purity	Protein A purified from animal origin-free supernatant
UniProt	P84243
Gene ID	8350
Applications	Western Blot : 0.5-2ug/ml Immunocytochemistry : 0.5-2ug/ml ELISA : 0.2-1ug/ml
Limitations	This H3K27ac antibody is available for research use only.



H3K27ac Antibody / HIST1H3A Enhancer Activation Marker Antibody (clone RM172) for WB. Western blot analysis of HIST1H3A / Histone H3 Lys27 acetylation in acid extracts of human HeLa cells untreated (-) and sodium butyrate-treated (+) using H3K27ac Antibody / HIST1H3A Enhancer Activation 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 enhancer-associated chromatin activation.



H3K27ac Antibody / HIST1H3A Enhancer Activation Marker Antibody (clone RM172) specificity analysis. Peptide binding assay demonstrating selective recognition of HIST1H3A / Histone H3 Lys27 acetylation (K27ac). Strong signal is observed exclusively with the K27ac peptide, while no detectable reactivity is seen with unmodified Histone H3 or acetylation at Lys4, Lys9, Lys14, Lys18, Lys23, Lys36, Lys56, Lys79, or Lys122, confirming high specificity for the Lys27 acetylation site associated with active enhancer chromatin.



ICC/IF test of HeLa cells treated with sodium butyrate using recombinant H3K27ac antibody (red). Actin filaments have been labeled with fluorescein phalloidin (green).

Description

Histone H3 (HIST1H3A) acetylation at lysine 27 is a defining epigenetic modification associated with active enhancers and distal regulatory elements. H3K27ac Antibody / HIST1H3A Enhancer Activation Marker Antibody (clone RM172) is designed to detect Histone H3 acetylated at lysine 27, providing a widely accepted and high-confidence marker of enhancer activation and gene regulatory activity. 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 H3K27ac antibody in the literature, recognizes a modification deposited by histone acetyltransferases such as p300 and CBP at enhancer regions. H3K27 acetylation distinguishes active enhancers from poised or inactive enhancers, making it one of the most important markers in epigenomic profiling and genome-wide regulatory mapping.

This recombinant rabbit monoclonal clone RM172 antibody is uniquely positioned as a flagship enhancer marker within the histone acetylation landscape. Unlike promoter-associated marks such as H3K9ac or H3K4ac, and elongation-associated marks such as H3K36ac, H3K27ac specifically identifies distal regulatory elements that control gene expression through long-range chromatin interactions.

At the molecular level, H3K27 acetylation facilitates recruitment of transcription factors, mediator complexes, and co-activators at enhancer regions. These interactions promote chromatin looping and enhancer-promoter communication, enabling activation of target genes in a cell-type-specific manner.

H3K27ac is extensively used in chromatin immunoprecipitation and sequencing-based approaches to map active enhancers across the genome. Its presence provides a reliable indicator of regulatory element activity and is widely used to define gene regulatory networks and cellular identity.

In western blot applications, the antibody detects Histone H3 at approximately 15 kDa, with signal corresponding to acetylated chromatin associated with active enhancers. Detection reflects enhancer activation rather than promoter activity or transcription elongation.

At the cellular level, H3K27 acetylation localizes to the nucleus and is enriched in euchromatic regions corresponding to active enhancers and regulatory elements. This distribution clearly distinguishes it from repressive modifications at the same residue and from other acetylation sites with different regulatory functions.

This antibody supports detection of Lys27-acetylated Histone H3, enabling investigation of enhancer activation, regulatory

element function, and epigenetic control of gene expression programs.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H3K27ac Antibody / HIST1H3A Enhancer Activation Marker Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An acetyl-peptide corresponding to the Acetyl-Histone H3 (Lys27) was used as the immunogen for this H3K27ac Antibody / HIST1H3A Enhancer Activation Marker Antibody.

Storage

Store the recombinant H3K27ac antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

Histone H3 Lys27 acetylation antibody, H3K27ac enhancer antibody, histone H3 acetyl Lys27 antibody, active enhancer histone antibody