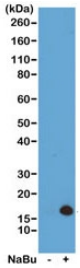
H3K4ac Antibody / HIST1H3A Promoter-Proximal Activation Antibody [clone RM149] (R20213)

Catalog No.	Formulation	Size
R20213-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20213-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

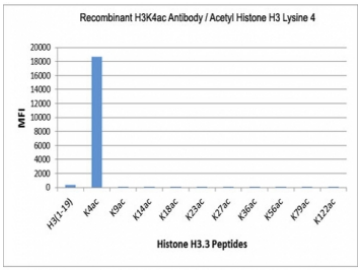
Recombinant RABBIT MONOCLONAL

Bulk quote request

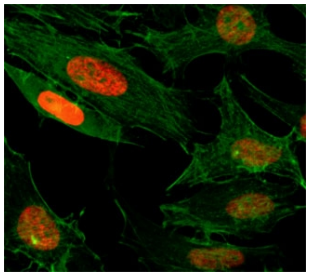
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM149
Purity	Protein A purified from animal origin-free supernatant
UniProt	P84243
Gene ID	8350
Applications	Western blot: 0.25-1ug/ml Immunocytochemistry: 0.5-2ug/ml ELISA: 0.2-1ug/ml
Limitations	This H3K4ac antibody is available for research use only.



H3K4ac Antibody / HIST1H3A Promoter-Proximal Activation Antibody (clone RM149) for WB. Western blot analysis of HIST1H3A / Histone H3 Lys4 acetylation in acid extracts of human HeLa cells untreated (-) and sodium butyrate-treated (+) using H3K4ac Antibody / HIST1H3A Promoter-Proximal 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 promoter-proximal chromatin activation.



H3K4ac Antibody / HIST1H3A Promoter-Proximal Activation Antibody (clone RM149) specificity analysis. Peptide binding assay demonstrating selective recognition of HIST1H3A / Histone H3 Lys4 acetylation (K4ac). Strong signal is observed exclusively with the K4ac peptide, while no detectable reactivity is seen with non-modified Lys4 or acetylation at Lys9, Lys14, Lys18, Lys23, Lys27, Lys36, Lys56, Lys79, or Lys122, confirming high specificity for the Lys4 acetylation site associated with promoter-proximal chromatin activation.



ICC/IF test of HeLa cells treated with sodium butyrate using recombinant H3K4ac antibody (red). Actin filaments have been labeled with fluorescein phalloidin (green).

Description

Histone H3 (HIST1H3A) acetylation at lysine 4 represents a regulatory modification associated with promoter-proximal chromatin and early transcriptional activation states. H3K4ac Antibody / HIST1H3A Promoter-Proximal Activation Antibody (clone RM149) is designed to detect Histone H3 acetylated at lysine 4, providing insight into chromatin environments that support transcriptional competence at gene promoters. 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 H3K4ac antibody in the literature, recognizes a modification located near transcription start sites that contributes to chromatin accessibility and recruitment of transcriptional machinery. H3K4 acetylation is often associated with active or poised promoters and plays a role in establishing permissive chromatin environments for gene activation.

This recombinant rabbit monoclonal clone RM149 antibody is uniquely positioned for studies of promoter-proximal chromatin regulation. While H3K9ac is strongly associated with active promoter transcription and H3K27ac marks enhancers, H3K4ac reflects early regulatory events at promoters and contributes to chromatin states that precede or accompany transcriptional initiation.

At the molecular level, H3K4 acetylation influences recruitment of chromatin remodeling complexes and transcriptional regulators that establish transcriptionally competent promoter regions. It often co-occurs with H3K4 methylation, a well-known promoter-associated modification, but represents a distinct regulatory layer that reflects dynamic chromatin remodeling.

This modification contributes to fine-tuning of promoter architecture and can be associated with genes that are poised for activation or undergoing early transcriptional engagement. It provides an additional level of resolution in distinguishing promoter states within active chromatin.

In western blot applications, the antibody detects Histone H3 at approximately 15 kDa, with signal corresponding to acetylated chromatin at promoter-proximal regions. Detection reflects early-stage regulatory chromatin rather than elongation or enhancer-driven activation.

At the cellular level, H3K4 acetylation localizes to the nucleus and is enriched in euchromatic regions corresponding to gene promoters. This distribution supports its use as a marker of promoter architecture and transcriptional regulation.

This antibody supports detection of Lys4-acetylated Histone H3, enabling investigation of promoter chromatin

organization, transcriptional activation, and epigenetic regulation of gene expression.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H3K4ac Antibody / HIST1H3A Promoter-Proximal Activation Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An acetyl-peptide corresponding to the Acetyl-Histone H3 (Lys4) was used as the immunogen for this H3K4ac Antibody / HIST1H3A Promoter-Proximal Activation Antibody.

Storage

Store the recombinant H3K4ac antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

Histone H3 Lys4 acetylation antibody, H3K4ac promoter antibody, histone H3 acetyl Lys4 antibody, promoter chromatin marker antibody

Copyright © NSJ Bioreagents. All rights reserved.