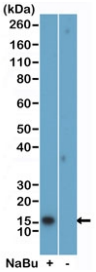
H2BK5ac Antibody / HIST1H2B Early Chromatin Activation Antibody [clone RM455] (R20469)

Catalog No.	Formulation	Size
R20469-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug

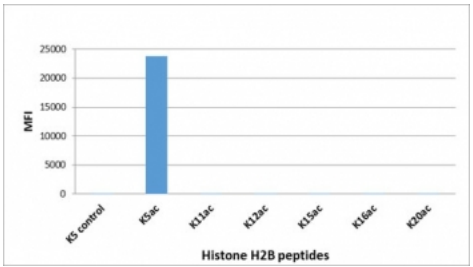
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM455
Purity	Protein A purified from animal origin-free supernatant
UniProt	P33778
Applications	Western blot: 0.01ug/ml-1ug/ml ELISA: 0.2ug/ml-1ug/ml
Limitations	This H2BK5ac antibody is available for research use only.



H2BK5ac Antibody / HIST1H2B Early Chromatin Activation Antibody (clone RM455) for WB. Western blot analysis of HIST1H2B / Histone H2B Lys5 acetylation (H2BK5ac) in acid extracts of human HeLa cells untreated (-) or treated (+) with sodium butyrate using H2BK5ac Antibody / HIST1H2B Early Chromatin Activation Antibody. A band is detected at the predicted molecular weight corresponding to acetylated Histone H2B, with increased signal in treated cells consistent with enhanced histone acetylation and early chromatin activation following HDAC inhibition.



H2BK5ac Antibody / HIST1H2B Early Chromatin Activation Antibody (clone RM455) specificity analysis. Peptide binding assay demonstrating selective recognition of HIST1H2B / Histone H2B Lys5 acetylation (K5ac). Strong signal is observed exclusively with the K5ac peptide, while no detectable reactivity is seen with non-modified Lys5 or other acetylated histone H2B peptides, confirming high specificity for the Lys5-acetylated H2B state associated with early chromatin activation and transcription initiation.

Description

Histone H2B (HIST1H2B) acetylation at lysine 5 is a chromatin modification associated with early transcriptional activation and the establishment of accessible chromatin states. H2BK5ac Antibody / HIST1H2B Early Chromatin Activation Antibody (clone RM455) is designed to detect Histone H2B acetylated at lysine 5, providing a marker of chromatin regions undergoing initial activation and nucleosome relaxation. This antibody is part of a broader collection of Histone H2B antibodies used to study chromatin structure, histone modifications, and epigenetic regulation.

HIST1H2B antibody, also referred to as Histone H2B antibody and H2BK5ac antibody in the literature, recognizes a modification that directly affects histone-DNA interactions. Acetylation neutralizes the positive charge of lysine residues, weakening nucleosome-DNA binding and facilitating chromatin opening.

This recombinant rabbit monoclonal clone RM455 antibody is uniquely positioned for studies of early chromatin activation. H2B lysine 5 acetylation is enriched at promoters and regulatory elements where transcription is being initiated or where chromatin is transitioning from a closed to an open state.

At the molecular level, H2BK5ac promotes recruitment of bromodomain-containing proteins and chromatin remodeling complexes that further enhance chromatin accessibility. It often acts in concert with acetylation marks on histones H3 and H4 to establish permissive chromatin environments required for transcription factor binding.

This modification is particularly associated with transcriptional priming, marking genomic regions that are poised for activation but may not yet be fully engaged in transcriptional elongation. It reflects an early stage of chromatin remodeling rather than sustained transcriptional activity.

In contrast to H2BK11ac, which is associated with ongoing transcriptional regulation and gene expression maintenance, H2BK5ac is more tightly linked to the initiation phase of transcriptional activation. This distinction allows separation of early versus sustained chromatin activation states.

H2BK5ac is widely distributed across euchromatic regions and is particularly enriched at active promoters and enhancers. Its presence correlates with chromatin accessibility and gene activation potential.

At the cellular level, H2B lysine 5 acetylation localizes to the nucleus and is associated with transcriptionally active chromatin domains. This supports its use as a marker of early gene activation and chromatin remodeling.

This antibody supports detection of Lys5-acetylated Histone H2B, enabling investigation of chromatin activation, transcription initiation, and epigenetic mechanisms regulating gene expression.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H2BK5ac Antibody / HIST1H2B Early Chromatin Activation Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An acetyl-peptide corresponding to Acetyl-Histone H2B (Lys5) was used as the immunogen for the H2BK5ac Antibody / HIST1H2B Early Chromatin Activation Antibody.

Storage

Store the recombinant H2BK5ac antibody at -20oC.

Alternate Names

Histone H2B Lys5 acetylation antibody, H2BK5ac chromatin activation antibody, acetyl histone H2B Lys5 antibody, H2B K5 acetyl histone antibody

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