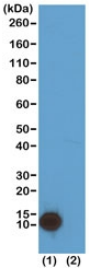
H4K5ac Antibody / Histone H4 Lysine 5 Acetylation Chromatin Assembly Antibody [clone RM199] (R20224)

Catalog No.	Formulation	Size
R20224-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20224-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

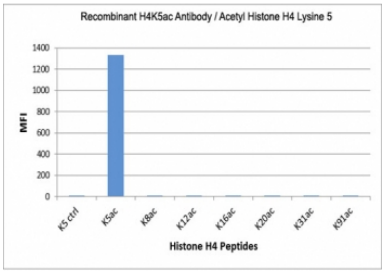
Recombinant RABBIT MONOCLONAL

Bulk quote request

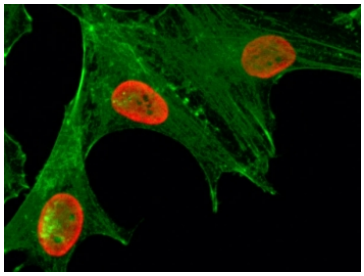
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM199
Purity	Protein A purified from animal origin-free supernatant
UniProt	P62805
Gene ID	121504
Applications	Western Blot : 0.2-1ug/ml ELISA : 0.2-1ug/ml Immunocytochemistry : 0.5-2ug/ml
Limitations	This H4K5ac Antibody antibody is available for research use only.



H4K5ac Antibody for WB. Western blot analysis of histone H4 lysine 5 acetylation in chromatin samples. Lane 1: acid extract of human HeLa cells, Lane 2: recombinant histone H4 protein. A band is detected at approximately 11 kDa, consistent with the predicted molecular weight of Histone H4 (HIST1H4). The signal in HeLa cells reflects endogenous H4K5 acetylation associated with replication-coupled chromatin assembly and newly synthesized histone incorporation.



H4K5ac Antibody specificity. Peptide binding analysis demonstrating selective recognition of histone H4 lysine 5 acetylation. Strong signal is observed exclusively for the H4K5ac peptide, with no detectable reactivity toward unmodified lysine 5 (K5 control) or other acetylated histone H4 peptides. These results confirm high specificity of the H4K5ac antibody for chromatin assembly-associated acetylated histone H4.



H4K5ac Antibody for IF. Immunofluorescence analysis of histone H4 lysine 5 acetylation in sodium butyrate-treated human HeLa cells using H4K5ac Antibody (red). Nuclear staining is observed, consistent with localization of acetylated histone H4 (HIST1H4) within chromatin during replication-associated chromatin assembly. Actin filaments are labeled with fluorescein phalloidin (green), and nuclei are visualized with DAPI (blue), highlighting nuclear enrichment of this chromatin assembly-associated acetylation mark.

Description

Histone H4 (HIST1H4) is a core nucleosomal histone whose lysine 5 acetylation (H4K5ac) marks newly synthesized histones during replication-coupled chromatin assembly. H4K5ac Antibody (clone RM199) detects this modification, which is tightly linked to nucleosome deposition and early chromatin formation. This acetylation event is one of the defining features of newly incorporated histone H4 and provides a direct readout of chromatin assembly activity rather than established chromatin states. This antibody is part of our broader Histone H4 antibody collection, including acetylation, methylation, phosphorylation, and total H4 detection reagents for chromatin and epigenetics research.

H4K5ac antibody, also referred to as Histone H4 K5 acetyl antibody or HIST1H4 acetylation antibody in the literature, is widely used to investigate replication-associated chromatin dynamics and histone deposition pathways. Acetylation at lysine 5 is catalyzed primarily by the histone acetyltransferase HAT1, which modifies newly synthesized histone H4 prior to its incorporation into chromatin. This modification, often occurring together with K12 acetylation, facilitates proper histone chaperone interactions and nucleosome assembly.

Functionally, acetylation at lysine 5 neutralizes the positive charge of the histone tail, reducing its affinity for DNA and allowing flexible nucleosome formation. This promotes efficient chromatin assembly by enabling histones to be deposited onto DNA without premature compaction. In contrast to methylation-based modifications that stabilize chromatin structure, H4K5 acetylation supports a transiently open chromatin state required for nucleosome positioning and chromatin maturation.

During DNA replication, newly synthesized histones bearing H4K5ac are incorporated into chromatin and subsequently undergo deacetylation as chromatin matures. This transient nature makes H4K5ac a highly informative marker of chromatin assembly timing, histone turnover, and replication-coupled nucleosome formation. Elevated or prolonged acetylation at this site can reflect disruptions in chromatin maturation and has been associated with genome instability.

From a structural perspective, the histone H4 tail contributes to nucleosome organization and inter-nucleosomal interactions, and acetylation at lysine 5 temporarily modulates these interactions to allow proper chromatin formation. This distinguishes H4K5ac from other H4 modifications that are involved in long-term chromatin compaction or repression.

A recombinant rabbit monoclonal antibody such as clone RM199 enables specific detection of H4K5 acetylation in studies focused on chromatin assembly, replication dynamics, histone deposition, and early-stage chromatin organization.

Chromatin organization and epigenetic pathway studies may also benefit from our Histone H4 antibody targeting core nucleosome structure and nuclear chromatin biology.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H4K5ac Antibody / Histone H4 Lysine 5 Acetylation Chromatin Assembly Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An acetyl-peptide corresponding to Acetyl-Histone H4 (Lys5) was used as the immunogen for this H4K5ac Antibody / Histone H4 Lysine 5 Acetylation Chromatin Assembly Antibody.

Storage

Store the H4K5ac Antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

H4K5ac antibody, Histone H4 K5 acetyl antibody, HIST1H4 acetylation antibody, H4 chromatin assembly antibody

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