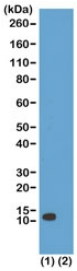
H4K20ac Antibody / Histone H4 Lysine 20 Acetylation Chromatin Structure Antibody [clone RM205] (R20227)

Catalog No.	Formulation	Size
R20227-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20227-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

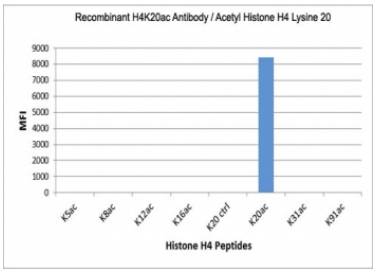
Recombinant RABBIT MONOCLONAL

Bulk quote request

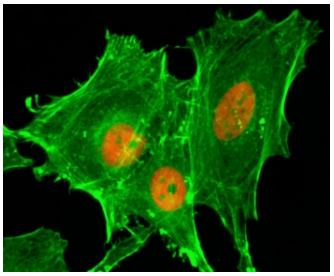
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM205
Purity	Protein A purified from animal origin-free supernatant
UniProt	P62805
Gene ID	121504
Applications	Western Blot : 1-2ug/ml ELISA : 0.2-1ug/ml Immunocytochemistry : 1-2ug/ml
Limitations	This recombinant H4K20ac antibody is available for research use only.



H4K20ac Antibody for WB. Western blot analysis of histone H4 lysine 20 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 H4K20 acetylation associated with chromatin structure modulation and the balance between chromatin compaction and accessibility.



H4K20ac Antibody specificity. Peptide binding analysis demonstrating selective recognition of histone H4 lysine 20 acetylation. Strong signal is observed exclusively for the H4K20ac peptide, with no detectable reactivity toward unmodified lysine 20 (K20 control) or other acetylated histone H4 peptides. These results confirm high specificity of the H4K20ac antibody for chromatin structure-associated acetylated histone H4.



H4K20ac Antibody for IF. Immunofluorescence analysis of histone H4 lysine 20 acetylation in sodium butyrate-treated human HeLa cells using H4K20ac Antibody (red). Predominant nuclear staining is observed, consistent with localization of acetylated histone H4 (HIST1H4) within chromatin and reflecting chromatin states balancing compaction and accessibility. Actin filaments are labeled with fluorescein phalloidin (green), and nuclei are visualized with DAPI (blue), highlighting nuclear enrichment of this chromatin structure-associated acetylation mark.

Description

Histone H4 (HIST1H4) is a core nucleosomal histone whose lysine 20 acetylation (H4K20ac) represents a distinct regulatory modification influencing chromatin structure and accessibility. H4K20ac Antibody (clone RM205) detects acetylation at lysine 20, a residue more commonly associated with methylation-driven chromatin compaction. Acetylation at this site introduces an alternative regulatory state that contrasts with methylation-dependent chromatin condensation and reflects a shift toward a more accessible chromatin configuration. 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.

H4K20ac antibody, also referred to as Histone H4 K20 acetyl antibody or HIST1H4 acetylation antibody in the literature, is used to investigate chromatin states where acetylation counterbalances methylation-mediated chromatin compaction. This modification alters the functional output of lysine 20 by neutralizing its positive charge, thereby reducing nucleosome interaction strength and promoting localized chromatin accessibility.

Mechanistically, acetylation at lysine 20 disrupts the same structural interactions that are enhanced by H4K20 methylation. This creates a regulatory switch at a single residue, allowing chromatin to transition between compact and accessible states depending on the modification present. As such, H4K20ac is particularly valuable for studying chromatin state transitions and the balance between chromatin condensation and relaxation.

The histone H4 tail is critical for mediating interactions between nucleosomes, and modification at lysine 20 has a direct impact on these interactions. Acetylation reduces chromatin fiber compaction and contributes to a more open chromatin configuration, distinguishing H4K20ac from methylation states that reinforce chromatin density. This makes H4K20ac a useful marker for examining chromatin boundary regions and transitional chromatin states.

H4K20 acetylation may also influence recruitment of chromatin-associated proteins that recognize acetylated lysine residues, further contributing to changes in chromatin organization. Dysregulation of this balance between acetylation and methylation at lysine 20 has been implicated in altered epigenetic states and disease processes, including cancer.

A recombinant rabbit monoclonal antibody such as clone RM205 enables specific detection of H4K20 acetylation in studies focused on chromatin structure, chromatin state transitions, and epigenetic regulation of genome 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 H4K20ac Antibody / Histone H4 Lysine 20 Acetylation Chromatin Structure Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An acetyl-peptide corresponding to Acetyl-Histone H4 (Lys20) was used as the immunogen for this H4K20ac Antibody / Histone H4 Lysine 20 Acetylation Chromatin Structure Antibody.

Storage

Store the recombinant H4K20ac antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

H4K20ac antibody, Histone H4 acetyl lysine 20 antibody, HIST1H4 acetylation antibody, H4 chromatin boundary antibody