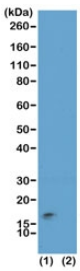
H3K9me3/S10p Antibody / HIST1H3A Dual Modification Epigenetic Switch Antibody [clone RM162] (R20236)

Catalog No.	Formulation	Size
R20236-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug
R20236-25UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	25 ug

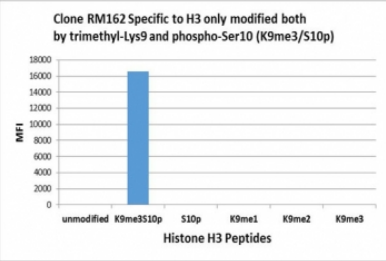
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM162
Purity	Protein A purified from animal origin-free supernatant
UniProt	P84243
Gene ID	8350
Applications	Western Blot : 0.01ug/ml-1ug/ml ELISA : 0.01ug/ml-0.5ug/ml
Limitations	This recombinant H3K9me3/S10p antibody is available for research use only.



H3K9me3/S10p Antibody / HIST1H3A Dual Modification Epigenetic Switch Antibody for WB. Western blot analysis of HIST1H3A / Histone H3 Lys9 trimethylation and Ser10 phosphorylation in acid extracts of human HeLa cells (1) and recombinant Histone H3.3 (2) using H3K9me3/S10p Antibody / HIST1H3A Dual Modification Epigenetic Switch Antibody. A band is detected at the predicted molecular weight of approximately 15 kDa corresponding to Histone H3, with signal observed only when both Lys9 trimethylation and Ser10 phosphorylation are present, demonstrating dual modification-specific recognition and confirming selective detection of the methyl-phospho chromatin state.



H3K9me3/S10p Antibody / HIST1H3A Dual Modification Epigenetic Switch Antibody specificity analysis. Peptide binding assay demonstrating selective recognition of HIST1H3A / Histone H3 only when both Lys9 trimethylation and Ser10 phosphorylation are present (K9me3/S10p). Strong signal is observed exclusively with the dual-modified peptide, while no detectable reactivity is seen with unmodified Histone H3, K9me3-only, S10p-only, or other Lys9 methylation states, confirming high specificity for the combinatorial methyl-phospho epigenetic mark.

Description

Histone H3 (HIST1H3A) is a core chromatin protein that undergoes multiple post-translational modifications that collectively regulate chromatin structure and gene expression. The combination of lysine 9 trimethylation and serine 10 phosphorylation represents a specialized dual modification associated with dynamic chromatin state transitions. H3K9me3/S10p Antibody / HIST1H3A Dual Modification Epigenetic Switch Antibody is designed to specifically recognize Histone H3 only when both modifications are present simultaneously, providing a highly selective readout of combinatorial chromatin regulation. 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 H3K9me3S10p antibody in the literature, detects a combinatorial histone mark that reflects functional crosstalk between epigenetic repression and mitotic chromatin remodeling. H3K9 trimethylation is a hallmark of heterochromatin and transcriptional silencing, while Ser10 phosphorylation is associated with chromatin condensation and mitotic progression. The coexistence of these modifications defines a regulatory methyl-phospho switch that modulates chromatin accessibility during cell cycle transitions.

This recombinant rabbit monoclonal clone RM162 antibody is uniquely positioned for studies of epigenetic crosstalk and chromatin state switching rather than single-modification detection. The requirement for dual modification provides a highly specific signal that distinguishes chromatin regions undergoing coordinated regulatory transitions from those carrying only methylation or phosphorylation independently.

At the molecular level, Ser10 phosphorylation adjacent to Lys9 trimethylation can disrupt binding of heterochromatin proteins such as HP1, facilitating transient relaxation of repressive chromatin during mitosis while preserving underlying epigenetic memory. This mechanism highlights the functional importance of this dual modification in coordinating chromatin remodeling with cell cycle progression.

In western blot applications, the antibody detects Histone H3 at approximately 15 kDa only when both modifications are present, providing a selective biochemical readout of this epigenetic state. This dual specificity reduces non-specific signal and enhances confidence in detecting biologically relevant chromatin transitions.

At the cellular level, the dual modification localizes to the nucleus and is enriched in chromatin undergoing mitotic reorganization. Its presence reflects regions of chromatin transitioning between repressive and active structural states, offering insight into dynamic epigenetic regulation.

This antibody supports detection of Histone H3 carrying both Lys9 trimethylation and Ser10 phosphorylation, enabling detailed investigation of epigenetic switching, chromatin remodeling, and coordinated regulation of gene expression during the cell cycle.

Application Notes

The stated application concentrations are suggested starting points. Titration of the H3K9me3/S10p Antibody / HIST1H3A Dual Modification Epigenetic Switch Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A trimethyl-phospho-peptide corresponding to Trimethyl- Phospho-Histone H3 (Lys9/Ser10) was used as the immunogen for this H3K9me3/S10p Antibody / HIST1H3A Dual Modification Epigenetic Switch Antibody.

Storage

Store the recombinant H3K9me3/S10p antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).

Alternate Names

Histone H3 Lys9 trimethyl Ser10 phospho antibody, H3K9me3S10p antibody, dual modified histone H3 antibody, methyl phospho switch antibody