

PRODUCT INFORMATION



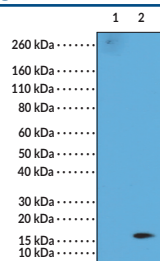
Histone H3K79Me1 Monoclonal Antibody (RM147)

Item No. 32137

Overview and Properties

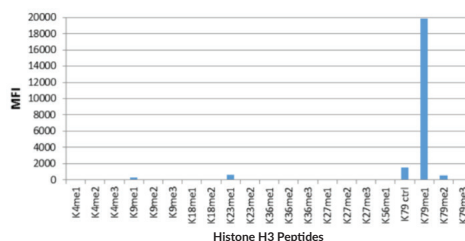
Contents: 100 µg of protein A-affinity purified monoclonal antibody.
Synonym: Monomethylated Histone H3 Lysine 79
Immunogen: Peptide corresponding to H3K79Me1
Cross Reactivity: (+) H3K79Me1; (-) Unmodified H3K79, H3K79Me2, H3K79Me3, H3K4Me1, H3K4Me2, H3K4Me3, H3K9Me1, H3K9Me2, H3K9Me3, H3K18Me1, H3K18Me2, H3K23Me1, H3K23Me2, H3K27Me1, H3K27Me2, H3K27Me3, H3K36Me1, H3K36Me2, H3K36Me3, H3K56Me1
Species Reactivity: (+) Vertebrates
Form: Liquid
Storage: -20°C (as supplied)
Stability: ≥1 year
Storage Buffer: PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration: 1 mg/ml
Clone: RM147
Host: Rabbit
Isotype: IgG
Applications: ChIP, ELISA, multiplex-based assays, and Western blot (WB); the recommended starting concentration for ELISA and WB is 0.2-1 µg/ml, 2-10 µg/ml for ChIP, and 0.1-0.5 µg/ml for multiplex-based assays. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

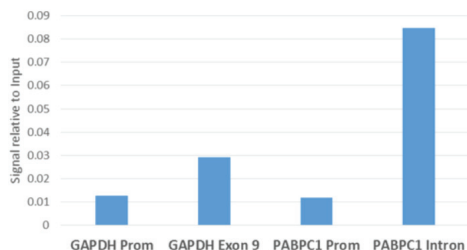


Lane 1: Recombinant histone H3.3
Lane 2: HeLa cells

WB of Recombinant Histone H3.3 and Acid Extracts of HeLa Cells using 0.5 µg/ml of Histone H3K79Me1 Monoclonal Antibody (RM147). This showed a band of H3K79Me1 in HeLa cells.



Histone H3K79Me1 Monoclonal Antibody (RM147) Specifically Reacts to H3K79Me1. No cross reactivity with dimethylated lysine 79 (K79Me2), trimethylated lysine 79 (K79Me3), or other methylations in histone H3.



ChIP Performed on HeLa Cells using Histone H3K79Me1 Monoclonal Antibody (RM147) (5 µg). Real-time PCR was performed using primers specific to the gene indicated.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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Description

Histone H3 is a nuclear protein and a component of the nucleosome core, a basic unit of chromatin, that is essential for organizing genomic DNA in eukaryotic nuclei.¹ It is a globular protein that contains an unstructured N-terminal tail that extends outside of the nucleosome core and is subject to various post-translational modifications (PTMs), including methylation, phosphorylation, acetylation, and citrullination.^{1,2} Methylation of lysine 79 on histone H3 is associated with active chromatin and the silencing of telomere-associated genes by silent information regulator (Sir) proteins.³ The conversion of H3K79Me1 to H3K79Me2/3 is associated with increased expression of mixed lineage leukemia (MLL) target genes, including *Hoxa9*.⁴ Cayman's Histone H3K79Me1 Monoclonal Antibody (RM147) can be used for chromatin immunoprecipitation (ChIP), ELISA, multiplex-based assays, and Western blot (WB) applications.

References

1. Hyun, K., Jeon, J., Park, K., *et al.* Writing, erasing and reading histone lysine methylations. *Exp. Mol. Med.* **49(4)**, e324 (2017).
2. Sharda, A., Amnekar, R.V., Natu, A., *et al.* Histone posttranslational modifications: Potential role in diagnosis, prognosis, and therapeutics of cancer. *Prognostic Epigenetics*. Sharma, S., editor, *Academic Press* (2019).
3. Bhaumik, S.R., Smith, E., and Shilatifard, A. Covalent modifications of histones during development and disease pathogenesis. *Nat. Struct. Mol. Biol.* **14(11)**, 1008-1016 (2007).
4. Deshpande, A.J., Deshpande, A., Sinha, A.U., *et al.* AF10 regulates progressive H3K79 methylation and HOX gene expression in diverse AML subtypes. *Cancer Cell* **26(6)**, 896-908 (2014).

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