

PRODUCT INFORMATION

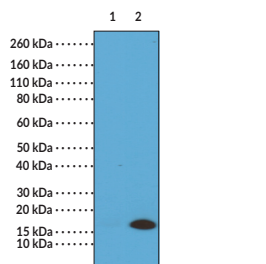
Histone H3K79Me3 Monoclonal Antibody

Item No. 32147

Overview and Properties

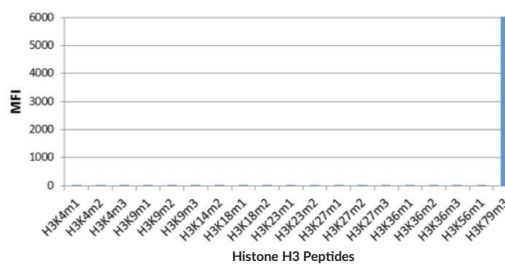
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Trimethylated Histone H3 Lysine 79
Immunogen:	A peptide corresponding to H3K79Me3
Cross Reactivity:	(+) H3K79Me3; (-) Unmodified H3K79, H3K79Me1, H3K79Me2, H3K4Me1, H3K4Me2, H3K4Me3, H3K9Me1, H3K9Me2, H3K9Me3, H3K14Me2, 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:	RM157
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, multiplex-based assays, and Western blot (WB); the recommended starting concentration for ELISA and multiplex-based assays is 0.1-0.5 µg/ml and 0.2-1 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

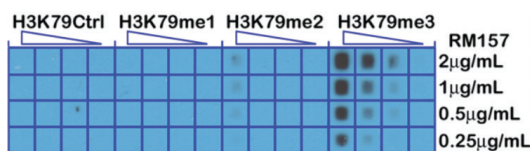


Lane 1: Recombinant histone H3.3
Lane 2: Acid extracts of HeLa cells

WB of recombinant histone H3.3 and acid extracts of HeLa cells using 0.5 µg/ml of Histone H3K79Me3 Monoclonal Antibody. This showed a band of H3K79Me3 in HeLa cells.



Histone H3K79Me3 Monoclonal Antibody Specifically Reacts to Histone H3 Trimethylated at Lysine 79 (H3K79Me3). No cross reactivity with other methylated lysines in histone H3.



A Peptide Dotblot Shows Histone H3K79Me3 Monoclonal Antibody Only Reacts to H3K79Me3. No cross reactivity with unmodified H3K79, H3K79Me1, or H3K79Me2.

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.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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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} Trimethylation of histone H3 at lysine 79 (H3K79Me3) is found at promoter regions of both active and silenced genes in human CD4⁺ T cells and positively correlates with transcriptional repression.³ H3K79Me3 is also found at pericentromeric heterochromatin in mouse oocytes and somatic cells.⁴ Levels of H3K79Me3 are decreased in human tumor tissue compared to non-cancerous tissue.⁵ Cayman's Histone H3K79Me3 Monoclonal Antibody can be used for 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. Barski, A., Cuddapah, S., Cui, K., *et al.* High-resolution profiling of histone methylations in the human genome. *Cell* **129(4)**, 823-837 (2007).
4. Ooga, M., Inoue, A., Kageyama, S., *et al.* Changes in H3K79 methylation during preimplantation development in mice. *Biol. Reprod.* **78(3)**, 413-424 (2008).
5. Evanno, E., Godet, J., Piccirilli, N., *et al.* Tri-methylation of H3K79 is decreased in TGF- β 1-induced epithelial-to-mesenchymal transition in lung cancer. *Clin. Epigenetics* **9**, 80 (2017).

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