PRODUCT INFORMATION

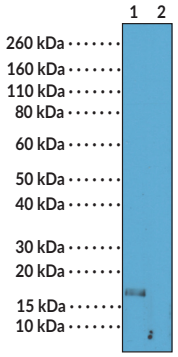
Histone H3K56Me1 Monoclonal Antibody (RM180)

Item No. 32169

Overview and Properties

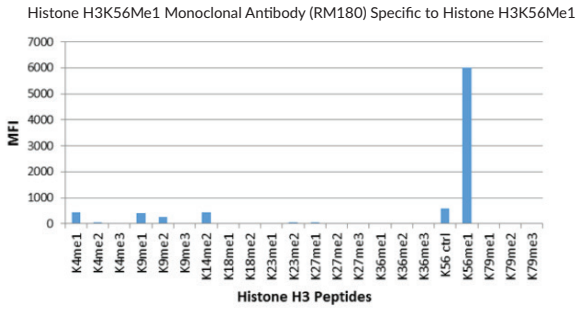
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Monomethylated Histone H3 Lysine 56
Immunogen:	Peptide corresponding to H3K56Me1
Cross Reactivity:	(+) H3K56Me1; (-) Unmodified H3K56, H3K4Me1, H3K4Me2, H3K4Me3, H3K9Me1, H3K9Me2, H3K9Me3, H3K14Me2, H3K18Me1, H3K18Me2, H3K23Me1, H3K23Me2, H3K27Me1, H3K27Me2, H3K27Me3, H3K36Me1, H3K36Me2, H3K36Me3, H3K79Me1, H3K79Me2, H3K79Me3
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:	1.0 mg/ml
Clone:	RM180
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, multiplex-based assays, and Western blot (WB); the recommended starting concentration is 0.2-1 µg/ml for ELISA, 0.1–0.5 µg/ml for multiplex-based assays, and 1-2 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 protein and acid extracts of HeLa cells using Histone H3K56Me1 Monoclonal Antibody (RM180) at a concentration of 1 µg/ml.



Histone H3K56Me1 Monoclonal Antibody (RM180) specifically reacts to H3K56Me1. No cross reactivity with unmodified H3K56 or other methylations in histone H3.

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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] Monomethylated lysine 56 on histone H3 (H3K56Me1) interacts with proliferating cell nuclear antigen (PCNA) to regulate DNA replication.[3] Cayman's H3K56Me1 Monoclonal Antibody (RM180) can be used for ELISA, multiplex-based assay, 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* **15**, 351-373 (2019).
3. Yu, Y., Song, C., Zhang, Q., *et al.* Histone H3 lysine 56 methylation regulates DNA replication through its interaction with PCNA. *Mol. Cell* **46(1)**, 7-17 (2012).

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