

PRODUCT INFORMATION



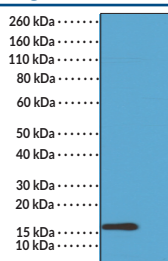
Histone H3K56Ac Monoclonal Antibody (RM179)

Item No. 32153

Overview and Properties

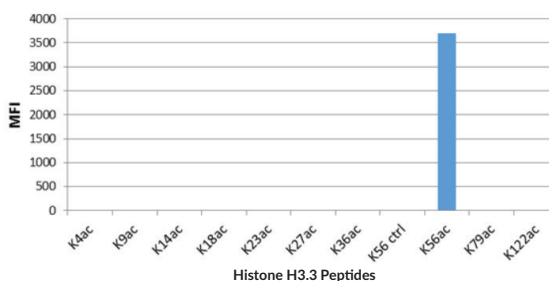
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Acetylated Histone H3 Lysine 56
Immunogen:	Peptide corresponding to H3K56Ac
Cross Reactivity:	(+) H3K56Ac; (-) Unmodified H3K56, H3K4Ac, H3K9Ac, H3K14Ac, H3K18Ac, H3K23Ac, H3K27Ac, H3K36Ac, H3K79Ac, H3K122Ac
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:	RM179
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, immunocytochemistry (ICC), immunohistochemistry (IHC), multiplex-based assays, and Western blot (WB); the recommended starting concentration for ELISA is 0.5-1 µg/ml, 0.5-2 µg/ml for ICC and multiplex-based assays, 1-10 µg/ml for IHC, and 1-2 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

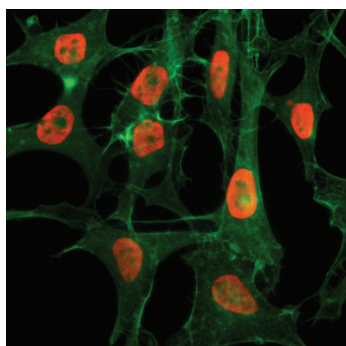


Lane 1: HeLa cells treated
Lane 2: Histone H3.3

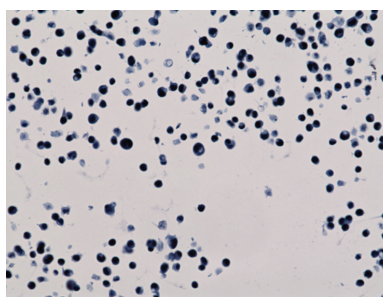
WB of acid extracts of HeLa cells treated with sodium butyrate and recombinant histone H3.3 protein using Histone H3K56Ac Monoclonal Antibody (RM179) at a concentration of 1 µg/ml.



Histone H3K56Ac Monoclonal Antibody (RM179) specifically reacts to H3K56Ac. There is no cross reactivity with unmodified H3K56, H3K4Ac, H3K9Ac, H3K14Ac, H3K18Ac, H3K23Ac, H3K27Ac, H3K36Ac, H3K79Ac, or H3K122Ac.



Immunofluorescent labeling of HeLa cells treated with sodium butyrate using Histone H3K56Ac Monoclonal Antibody (RM179) (red). Actin filaments have been labeled with fluorescein phalloidin (green).



Immunohistochemical staining of HepG2 cells using Histone H3K56Ac Monoclonal Antibody (RM179).

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
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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} Acetylation of histone H3 at lysine 56 (H3K56Ac) destabilizes the nucleosome core protein structure, which leads to unwrapping of histone octamers.³ H3K56Ac increases the affinity of various chromatin remodeling proteins for chromatin and is associated with transcriptional activation. Cayman's Histone H3K56Ac Monoclonal Antibody (RM179) can be used for ELISA, immunocytochemistry (ICC), immunohistochemistry (IHC), 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*. Sharma, S., editor, *Academic Press* (2019).
3. Stejskal, S., Stepka, K., Tesarova, L., *et al.* Cell cycle-dependent changes in H3K56ac in human cells. *Cell Cycle* **14(24)**, 3851-3863 (2015).

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