PRODUCT INFORMATION

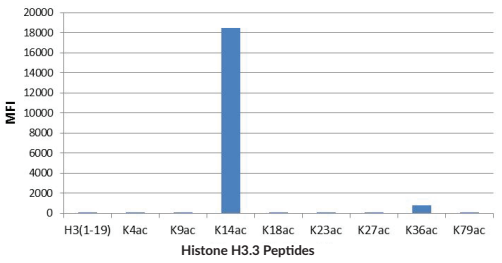
Histone H3K14Ac Monoclonal Antibody (RM130)

Item No. 32129

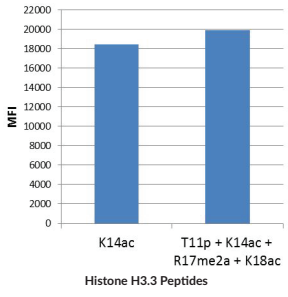
Overview and Properties

Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Acetylated Histone H3 Lysine 14
Immunogen:	An acetyl peptide corresponding to H3K14Ac
Cross Reactivity:	(+) H3K79Ac; (-) Unmodified H3K79, H3K4Ac, H3K9Ac, H3K18Ac, H3K23Ac, H3K27Ac, H3K36Ac, H3K79Ac
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:	RM130
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunocytochemistry (ICC), Chromatin immunoprecipitation (CHiP), Multiplex-based assays, and Western blot (WB); the recommended starting concentration for ELISA is 0.2-1 µg/ml, 0.1-0.5 µg/ml for multiplex-based assays, 0.5-2 µg/ml for WB and ICC, and 2-10 µg/ml for ChIP. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

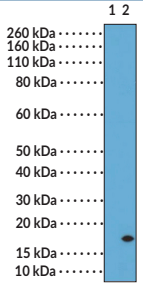
Images



Histone H3K14Ac Monoclonal Antibody (RM130) is Specific to H3K14Ac. Histone H3K14Ac Monoclonal Antibody (RM130) reacts to H3K14Ac and has no cross reactivity with H3K4Ac, H3K9Ac, H3K18Ac, H3K23Ac, H3K27Ac, H3K36Ac, and H3K79Ac in histone H3.

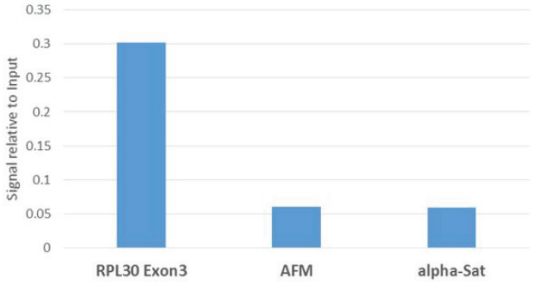


Histone H3K14Ac Monoclonal Antibody (RM130) is Not Affected by Neighboring Modifications. The binding specificity of Histone H3K14Ac Monoclonal Antibody (RM130) to H3K14Ac is not affected by the modification of neighboring amino acids.

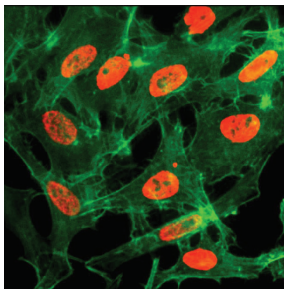


Lane 1: Acid extracts from HeLa cells (untreated)
Lane 2: Acid extracts from HeLa cells (treated with sodium butyrate)

WB of acid extracts from HeLa cells untreated or treated with sodium butyrate, using 0.5 µg/ml of Histone H3K14Ac Monoclonal Antibody (RM130).



ChIP of H3K14Ac Using Histone H3K14Ac Monoclonal Antibody (RM130). ChIP performed on HeLa cells using Histone H3K14Ac Monoclonal Antibody (RM130) (5 µg). A real-time PCR was performed using primers specific to the gene indicated.



Immunocytochemistry of HeLa cells treated with sodium butyrate, using Histone H3K14Ac Monoclonal Antibody (RM130) (red). Actin filaments have been labeled with fluorescein phalloidin (green).

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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PRODUCT INFORMATION

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 14 (H3K14) is associated with transcriptional activation and is required for trimethylation of H3K4.[3-5] Cayman's Histone H3K14Ac Monoclonal Antibody (RM130) can be used for ELISA, multiplex-based assay, immunocytochemistry (ICC), chromatin immunoprecipitation (ChIP), 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. Gatta, R. and Mantovani, R. Single nucleosome ChIPs identify an extensive switch of acetyl marks on cell cycle promoters. *Cell Cycle* **9(11)**, 2149-2159 (2010).
4. Keating, S.T., van Diepen, J.A., Risken, N.P., *et al.* Epigenetics in diabetic nephropathy, immunity and metabolism. *Diabetologia* **61(1)**, 6-20 (2018).
5. Nakanishi, S., Sanderson, B.W., Delventhal, K.M., *et al.* A comprehensive library of histone mutants identifies nucleosomal residues required for H3K4 methylation. *Nat. Struct. Mol. Biol.* **15(8)**, 881-888 (2008).

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