PRODUCT INFORMATION

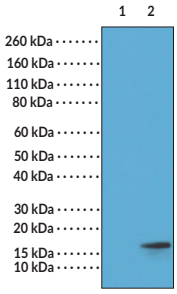
Histone H3K27Ac Monoclonal Antibody (RM172)

Item No. 32141

Overview and Properties

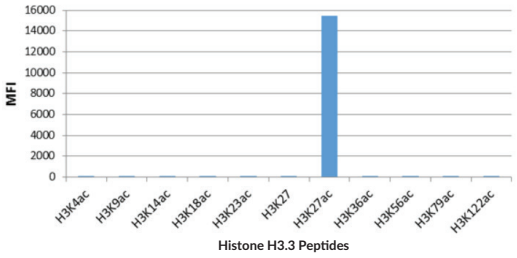
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Acetylated Histone H3 Lysine 27
Immunogen:	Peptide corresponding to H3K27Ac
Cross Reactivity:	(+) H3K27Ac; (-) Unmodified H3K27, H3K4Ac, H3K9Ac, H3K14Ac, H3K18Ac, H3K23Ac, H3K36Ac, H3K56Ac, H3K79Ac, H3K122Ac
Species Reactivity:	(+) Vertebrates
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	RM172
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, immunocytochemistry (ICC), multiplex-based assays, and Western blot (WB); the recommended starting concentration for ELISA is 0.2-1 µg/ml, 0.5-2 µg/ml for ICC and WB, and 0.1-0.5 µg/ml for muliplex-based assays. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

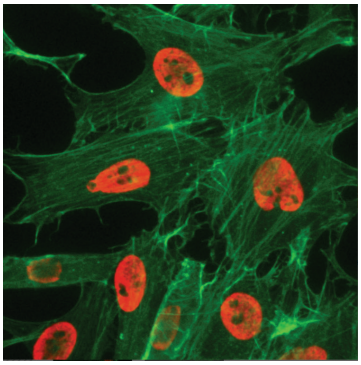


Lane 1: Acid extracts of HeLA cells (untreated)
Lane 2: Acid extracts of HeLa cells (treated)

WB of acid extracts of HeLa cells. Acid extracts of HeLa cells, treated with sodium butyrate, or left untrested were subjected to WB using 1 µg/ml of Histone H3K27Ac Monoclonal Antibody (RM172), which showed a band of H3K27Ac in treated HeLa cells.



Histone H3K27Ac Monoclonal Antibody (RM172) specifically reacts to H3K27Ac. No cross reactivity with H3K4Ac, H3K9Ac, H3K14Ac, H3K18Ac, H3K23Ac, H3K36Ac, H3K56Ac, H3K79Ac, or H3K122Ac.



Immunocytochemistry of HeLa Cells treated with sodium butyrate using Histone H3K27Ac Monoclonal Antibody (RM172) (red). Actin filaments have been labeled with fluorescein phalloidin (green).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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 27 (H3K27Ac) is associated with active gene transcription.[3] H3K27 acetylation and H3K4 monomethylation are enriched near active enhancers, and H3K27 acetylation and H3K4 trimethylation together mark transcription start sites of actively transcribed genes. Increased tumor H3K27Ac levels have been found in patients with breast cancer.[4] Cayman's Histone H3K27Ac Monoclonal Antibody (RM172) can be used for ELISA, immunocytochemistry (ICC), 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. Kimura, H. Histone modifications for human epigenome analysis. *J. Hum. Genet.* **58(7)**, 439-445 (2013).
4. Li, Q.-L., Wang, D.-Y., Ju, L.-G., *et al.* The hyper-activation of transcriptional enhancers in breast cancer. *Clin. Epigenetics* **11(1)**, 48 (2019).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM