

PRODUCT INFORMATION



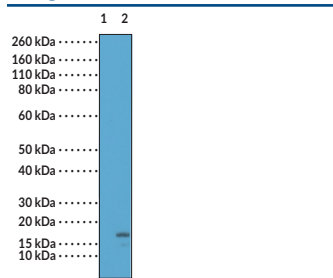
Histone H3K18Ac Monoclonal Antibody (RM166)

Item No. 32140

Overview and Properties

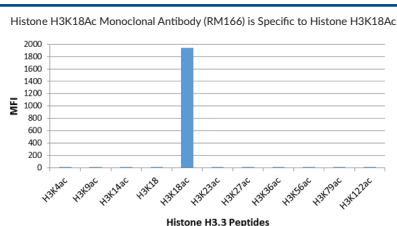
| | |
|----------------------------|---|
| Contents: | This vial contains 100 µg of protein A-affinity purified monoclonal antibody. |
| Synonyms: | Acetylated Histone H3 Lysine 18 |
| Immunogen: | Peptide corresponding to H3K18Ac |
| Cross Reactivity: | (+) H3K18Ac; (-) H3K18, H3K4Ac, H3K9Ac, H3K14Ac, H3K23Ac, H3K27Ac, H3K36Ac, H3K56Ac, 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: | RM166 |
| Host: | Rabbit |
| Isotype: | IgG |
| Applications: | Chromatin immunoprecipitation (ChIP), ELISA, immunocytochemistry (ICC), immunohistochemistry (IHC), multiplex-based assay, and Western blot (WB); the recommended starting concentration is 0.2-1, 1-10, and 0.1-0.5 µg/ml for ChIP, ELISA, IHC, and multiplex-based assays, respectively, and 0.5-2 µg/ml for ICC and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically. |

Images

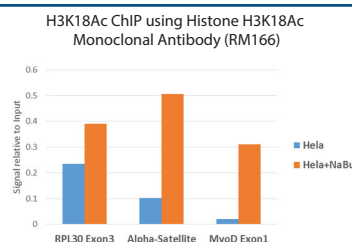


Lane 1: Acid extracts of HeLa cells (untreated)
Lane 2: Acid extracts of HeLa cells (treated)

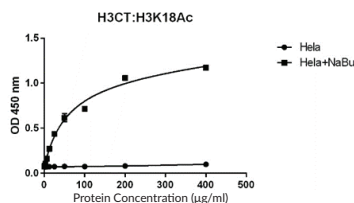
WB of acid extracts from HeLa cells untreated or treated with sodium butyrate using Histone H3K18Ac Monoclonal Antibody (RM166) at 0.5 µg/ml, showed a band of H3K18Ac in treated HeLa cells.



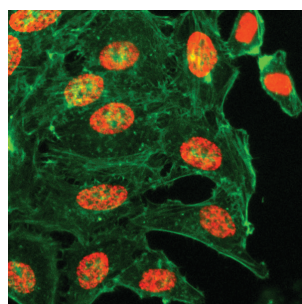
Histone H3K18Ac Monoclonal Antibody (RM166) Specifically Reacts to H3K18Ac. No cross reactivity with H3K4Ac, H3K9Ac, H3K14Ac, H3K18, H3K23Ac, H3K27Ac, H3K36Ac, H3K56Ac, H3K79Ac, and H3K122Ac.



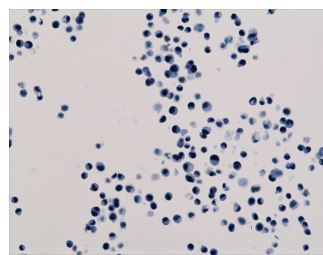
ChIP performed on HeLa cells with or without sodium butyrate treatment, using H3K18Ac Monoclonal Antibody (RM166) (5 µg). RT-PCR was performed using primers specific to the gene indicated.



Sandwich ELISA against H3K18Ac using HeLa whole cell lysate, treated with sodium butyrate, or left untreated. Using Anti-Histone H3 pan Rabbit Monoclonal Antibody (Clone RM188) (Item No. 20724) (1 µg/ml) as the capture antibody and biotinylated H3K18Ac (2 µg/ml) as the detection antibody.



Immunocytochemistry of HeLa cells treated with sodium butyrate using Histone H3K18Ac Monoclonal Antibody (RM166) (red). Actin filaments have been labeled with fluorescein phalloidin (green).



Immunohistochemistry staining of HepG2 cells using Histone H3K18Ac Monoclonal Antibody (RM166).

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} Acetylation of histone H3 at lysine 18 (H3K18Ac) by histone acetyltransferases (HATs) is associated with active gene transcription, whereas deacetylation of H3K18Ac by histone deacetylases (HDACs), including SIRT7, induces transcriptional repression.³ Tumor H3K18Ac hypoacetylation is associated with poor prognosis and increased risk of tumor recurrence in patients with lung adenocarcinoma or kidney clear cell carcinoma.⁴ Cayman's Histone H3K18Ac Monoclonal Antibody (RM166) can be used for chromatin immunoprecipitation (ChIP), 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* **15**, 351-373 (2019).
3. Barber, M.F., Michishita-Kioi, E., Xi, Y., *et al.* SIRT7 links H3K18 deacetylation to maintenance of oncogenic transformation. *Nature* **487(7405)**, 114-118 (2012).
4. Seligson, D.B., Horvath, S., McBrian, M.A., *et al.* Global levels of histone modifications predict prognosis in different cancers. *Am. J. Pathol.* **174(5)**, 1619-1628 (2009).

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