

PRODUCT INFORMATION



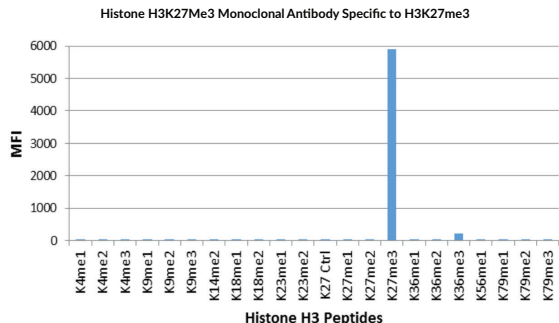
Histone H3K27Me3 Monoclonal Antibody (Clone RM175)

Item No. 20719

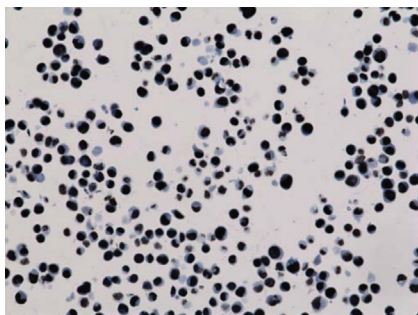
Overview and Properties

Contents: This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym: Trimethylated Histone H3 Lysine 27
Immunogen: Peptide corresponding to H3K27Me3
Cross Reactivity: (+) H3K27Me3; (-) Unmodified histone H3K27, H3K27Me1, H3K27Me2, H3K4Me1, H3K4Me2, H3K4Me3, H3K9Me1, H3K9Me2, H3K9Me3, H3K14Me2, H3K18Me1, H3K18Me2, H3K23Me1, H3K23Me2, H3K36Me1, H3K36Me2, H3K36Me3, H3K56Me1, 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
Clone: RM175
Host: Rabbit
Isotype: IgG
Applications: Chromatin immunoprecipitation (ChIP), ELISA, immunohistochemistry (IHC), multiplex-based assay, and Western blot (WB); the recommended starting concentration for ChIP is 1-5 µg/ml, 0.5-1 µg/ml for ELISA, 0.5-2 µg/ml for IHC, 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.

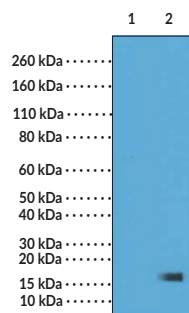
Images



Histone H3K27Me3 Monoclonal Antibody specifically reacts to histone H3 trimethylated at lysine 27 (K27me3). No cross reactivity with non-modified lysine 27 (K27 Ctrl), monomethylated lysine 27 (K27me1) or dimethylated lysine 27 (K27me2), or other methylations in histone H3.



Immunohistochemistry staining of HepG2 cells using Histone H3K27Me3 Monoclonal Antibody.



Lane 1: Recombinant histone H3.3
Lane 2: Acid extracts of HeLa cells

WB of recombinant histone H3.3 and acid extracts of HeLa cells, using 1 µg/ml of Histone H3K27Me3 Monoclonal Antibody. This showed a band of histone H3 trimethylated at lysine 27 (K27me3) in HeLa cells.

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} Trimethylation of histone H3 at lysine 27 (H3K27Me3) is associated with gene silencing.³ It is involved in tumor progression through its regulation by enhancer of zeste homolog 2 (EZH2) and transcriptional repression of tumor suppressor genes.^{4,5} Levels of H3K27Me3 are reduced in 293 T-REX cells containing EED^{R236T} and SUZ12^{G610V} mutations and in lymphoblastoid cells isolated from patients with Weaver syndrome, a rare overgrowth disorder characterized by EZH2, EED, or SUZ12 mutations, cancer susceptibility, and various distinctive physical features.⁶ Cayman's Histone H3K27Me3 Monoclonal Antibody can be used for chromatin immunoprecipitation (ChIP), ELISA, immunohistochemistry (IHC), multiplex-based assay, and Western blot (WB) applications.

References

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3. Becker, J.S., Nicetto, D., and Zaret, K.S. H3K9me3-dependent heterochromatin: Barrier to cell fate changes. *Trends Genet.* **32(1)**, 29-41 (2016).
4. Wu, Z., Lee, S.T., Qiao, Y., *et al.* Polycomb protein EZH2 regulates cancer cell fate decision in response to DNA damage. *Cell Death Differ.* **18(11)**, 1771-1779 (2011).
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6. Imagawa, E., Higashimoto, K., Sakai, Y., *et al.* Mutations in genes encoding polycomb repressive complex 2 subunits cause Weaver syndrome. *Hum. Mutat.* **38(6)**, 637-648 (2017).

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