

# PRODUCT INFORMATION



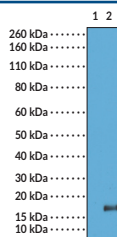
## Histone H3K36Me3 Monoclonal Antibody (RM155)

Item No. 32134

### Overview and Properties

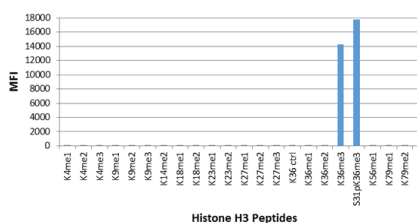
<b>Contents:</b>	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	Histone H3 (Lys <sup>36</sup> me3), Histone H3 (trimethyl K36), Trimethyl Histone H3 (Lys36), Trimethylated Histone 3 Lysine 36
<b>Immunogen:</b>	A peptide corresponding to H3K36Me3
<b>Cross Reactivity:</b>	(+) H3K36Me3; (-) Unmodified H3K36, H3K36Me1, H3K36Me2, H3K4Me1, H3K4Me2, H3K4Me3, H3K9Me1, H3K9Me2, H3K9Me3, H3K14Me2, H3K18Me1, H3K18Me2, H3K23Me1, H3K23Me2, H3K27Me1, H3K27Me2, H3K27Me3, H3K56Me1, H3K79Me1, H3K79Me2, H3K79Me3
<b>Species Reactivity:</b>	(+) Vertebrates
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Concentration:</b>	1 mg/ml
<b>Clone:</b>	RM155
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	Chromatin immunoprecipitation (ChIP), ELISA, multiplex-based assay, and Western blot (WB); the recommended starting concentration for ChIP is 2-10 µg/ml, 0.2-1 µg/ml for ELISA, 0.1-0.5 µg/ml for multiplex-based assays, and 0.5-2 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



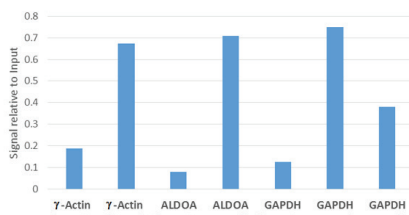
Lane 1: Recombinant histone H3.3  
Lane 2: Acid extracts of HeLa cells

WB of recombinant histone H3.3 and acid extracts of HeLa cells using Histone H3K36Me3 Monoclonal Antibody (RM155) at 2 µg/ml showed a band of H3K36Me3 in HeLa cells.



Histone H3 Peptides

Histone H3K36Me3 Monoclonal Antibody (RM155) specifically reacts to H3K36Me3. No cross reactivity with unmodified H3K36, H3K36Me1, H3K36Me2, or other methylations in histone H3.



ChIP Performed on HeLa Cells Using Histone H3K36Me3 Monoclonal Antibody (RM155) (5 µg). Real-time PCR was performed using primers specific to the gene indicated.

**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.

Copyright Cayman Chemical Company, 01/29/2024

**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.<sup>1</sup> 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.<sup>1,2</sup> Trimethylation of H3K36 is increased in the G<sub>1</sub> and early S phases of the cell cycle where it binds to and recruits the mismatch recognition protein MutS $\alpha$  in preparation for DNA replication and mismatch repair.<sup>3</sup> H3K36 trimethylation is found in greater amounts on exons compared with introns in *C. elegans*, mouse, and human genome-wide maps of histone H3 tail methylations.<sup>4</sup> The loss of H3K36 trimethyl is correlated with poor prognosis in multiple cancer types while high levels increase expression of tumor suppressor genes.<sup>5</sup> H3K36Me3 is negatively correlated with esophageal squamous cell carcinoma (ESCC) metastasis and positively correlated with increased survival in patients with ESCC. Cayman's Histone H3K36Me3 Monoclonal Antibody (RM155) can be used for chromatin immunoprecipitation (ChIP), ELISA, multiplex-based assay, and Western blot 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. Li, F., Mao, G., Tong, D., *et al.* The histone mark H3K36me3 regulates human DNA mismatch repair through its interaction with MutS $\alpha$ . *Cell* **153(3)**, 590-600 (2013).
4. Kolasinska-Zwierz, P., Down, T., Latorre, I., *et al.* Differential chromatin marking of introns and expressed exons by H3K36me3. *Nat. Genet.* **41(3)**, 376-381 (2009).
5. Zhou, M., Li, Y., Lin, S., *et al.* H3K9me3, H3K36me3, and H4K20me3 expression correlates with patient outcome in esophageal squamous cell carcinoma as epigenetic markers. *Dig. Dis. Sci.* **64(8)**, 2147-2157 (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