

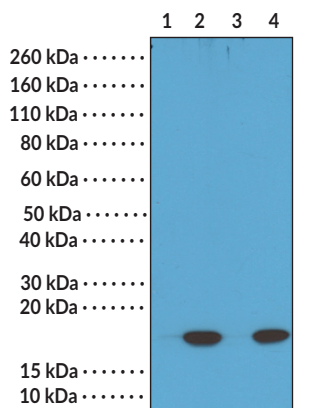
# PRODUCT INFORMATION

**Histone H3<sup>K36M</sup> Rabbit Monoclonal Antibody - Biotinylated (Clone RM193)**  
Item No. 42866

## Overview and Properties

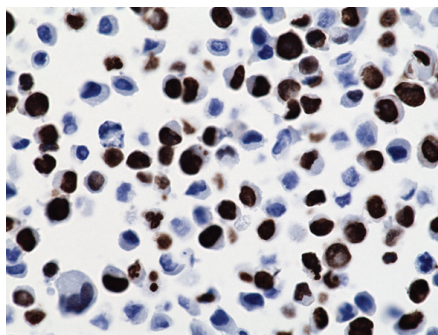
|                            |                                                                                                                                                                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contents:</b>           | This vial contains 50 µl of protein A-affinity purified antibody.                                                                                                                                                                                                                                                                  |
| <b>Immunogen:</b>          | A peptide corresponding to histone H3 <sup>K36M</sup>                                                                                                                                                                                                                                                                              |
| <b>Cross Reactivity:</b>   | (+) Histone H3 <sup>K36M</sup> ; (-) Histone H3                                                                                                                                                                                                                                                                                    |
| <b>Species Reactivity:</b> | (+) Species Independent                                                                                                                                                                                                                                                                                                            |
| <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>Clone:</b>              | RM193                                                                                                                                                                                                                                                                                                                              |
| <b>Host:</b>               | Rabbit                                                                                                                                                                                                                                                                                                                             |
| <b>Isotype:</b>            | IgG                                                                                                                                                                                                                                                                                                                                |
| <b>Applications:</b>       | Chromatin Immunoprecipitation (ChIP), ELISA, Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution is 1:250-1:2,500 for ELISA, 1:100-1:500 for IHC, an 1:200-1:1,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically. |

## Images



Lane 1: H3.1 WT  
Lane 2: H3.1 K36M  
Lane 3: H3.3 WT  
Lane 4: H3.3 K36M

WB of 293T cell lysates transfected with a DNA construct encoding wild-type or K36M mutant versions of histone H3.1 and H3.3, respectively, using Histone H3<sup>K36M</sup> Rabbit Monoclonal Antibody - Biotinylated (Clone RM193).



Immunohistochemical staining of formalin-fixed and paraffin-embedded 293T cells transfected with a DNA construct encoding of Histone H3<sup>K36M</sup> stained with Histone H3<sup>K36M</sup> Rabbit Monoclonal Antibody - Biotinylated (Clone RM193).

**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**  
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# PRODUCT INFORMATION



## Description

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Histone 3 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 a histone fold domain with a C-terminal  $\alpha$ -helix that facilitates nucleosome interactions and chromatin compaction, as well as an unstructured N-terminal tail that extends outside of the nucleosome core, both of which are subject to various post-translational modifications (PTMs), including ubiquitination, acetylation, methylation, and phosphorylation.<sup>1-3</sup> Histone H3 has a key role in transcriptional regulation.<sup>4</sup> A lysine-to-methionine mutation at residue 36 in histone H3.3 (H3.3<sup>K36M</sup>) is associated with chondroblastomas.<sup>5</sup> Cayman's Histone H3<sup>K36M</sup> Rabbit Monoclonal Antibody - Biotinylated (Clone RM193) can be used for chromatin immunoprecipitation (ChIP), ELISA, immunohistochemistry (IHC), and Western blot (WB) applications.

## References

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1. Hyun, K., Jeon, J., Park, K., *et al.* Writing, erasing and reading histone lysine methylations. *Exp. Mol. Med.* **49**(4), e324 (2017).
2. Wyrick, J.J. and Parra, M.A. The role of histone H2A and H2B post-translational modifications in transcription: A genomic perspective. *Biochim. Biophys. Acta* **1789**(1), 37-44 (2009).
3. Wang, C.-Y., Hua, C.-Y., Hsu, H.-E., *et al.* The C-terminus of histone H2B is involved in chromatin compaction specifically at telomeres, independently of its monoubiquitylation at lysine 123. *PLoS One* **6**(7), e22209 (2011).
4. Bhaumik, S.R., Smith, E., and Shilatifard, A. Covalent modifications of histones during development and disease pathogenesis. *Nat. Struct. Mol. Biol.* **14**(11), 1008-1016 (2007).
5. Fang, D., Gan, H., Lee, J.-H., *et al.* The histone H3.3<sup>K36M</sup> mutation reprograms the epigenome of chondroblastomas. *Science* **352**(6291), 1344-1348 (2016).

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