

# PRODUCT INFORMATION



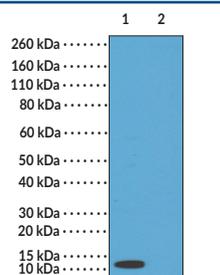
## Histone H4K20Ac Monoclonal Antibody (RM205)

Item No. 32159

### Overview and Properties

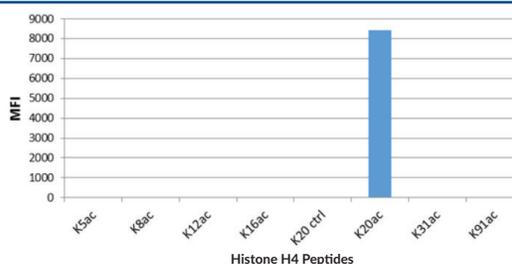
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|----------------------------|---|
| <b>Contents:</b>           | This vial contains 100 µg of protein A-affinity purified monoclonal antibody.   |
| <b>Synonym:</b>            | Acetylated Histone H4 Lysine 20   |
| <b>Immunogen:</b>          | Peptide corresponding to H4K20Ac  |
| <b>Cross Reactivity:</b>   | (+) H4K20Ac; (-) Unmodified H4K20, H4K5Ac, H4K8Ac, H4K12Ac, H4K16Ac, H4K31Ac, H4K91Ac   |
| <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>              | RM205   |
| <b>Host:</b>               | Rabbit  |
| <b>Isotype:</b>            | IgG   |
| <b>Applications:</b>       | Chromatin immunoprecipitation (ChIP), ELISA, immunocytochemistry (ICC), multiplex-based assays, and Western blot (WB); the recommended starting concentration for ChIP is 1-5 µg, 0.2-1 µg/ml for ELISA, 1-2 µg/ml for ICC and WB, and 0.1-1 µg/ml for multiplex-based assays. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically. |

### Images

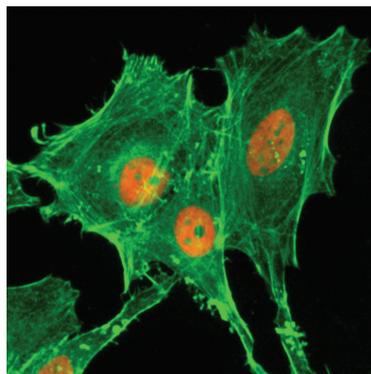


Lane 1: HeLa cells  
Lane 2: Histone H4

WB of acid extracts of HeLa cells and recombinant histone H4 protein using Histone H4K20Ac Monoclonal Antibody (RM205) at a concentration of 1 µg/ml.



Histone H4K20Ac Monoclonal Antibody (RM205) specifically reacts to H4K20Ac. There is no cross reactivity with unmodified H4K20, H4K5Ac, H4K8Ac, H4K12Ac, H4K16Ac, H4K31Ac, or H4K91Ac.



Immunofluorescent labeling of HeLa cells treated with sodium butyrate using Histone H4K20Ac Monoclonal Antibody (RM205) (red). Actin filaments have been labeled with fluorescein phalloidin (green).

**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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## Description

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Histone H4 is one of four core histone proteins that are involved in the organization of DNA into chromatin.<sup>1</sup> Histones are globular proteins with unstructured N-terminal tails and are subject to a variety of post-translational modifications, such as methylation, acetylation, phosphorylation, and citrullination, that can influence chromatin structure and regulate gene transcription.<sup>1,2</sup> Acetylation of histone H4 at lysine 20 (H4K20Ac) is associated with gene repression.<sup>3</sup> It is enriched near the transcription start sites of minimally expressed genes and, to a lesser extent, in the gene body regions of highly expressed genes in HeLa-S3 cells. H4K20Ac can be recognized and bound by the bromodomain of the histone acetyltransferase CREB-binding protein (CBP), as well as by the second bromodomain of bromodomain-containing protein 4 (BRD4).<sup>4</sup> Cayman's Histone H4K20Ac Monoclonal Antibody (RM205) can be used for chromatin immunoprecipitation (ChIP), ELISA, immunocytochemistry (ICC), multiplex-based assay, and Western blot (WB) applications.

## References

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1. Wang, Y., Li, M., Stadler, S., *et al.* Histone hypercitrullination mediates chromatin decondensation and neutrophil extracellular trap formation. *J. Cell Biol.* **184**(2), 205-213 (2009).
2. Hyun, K., Jeon, J., Park, K., *et al.* Writing, erasing and reading histone lysine methylations. *Exp. Mol. Med.* **49**(4), e324 (2017).
3. Kaimori, J.-Y., Maehara, K., Hayashi-Takanaka, Y., *et al.* Histone H4 lysine 20 acetylation is associated with gene repression in human cells. *Sci. Rep.* **6**, 24318 (2016).
4. Josling, G.A., Selvarajah, S.A., Petter, M., *et al.* The role of bromodomain proteins in regulating gene expression. *Genes (Basel)* **3**(2), 320-343 (2012).

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