

# PRODUCT INFORMATION



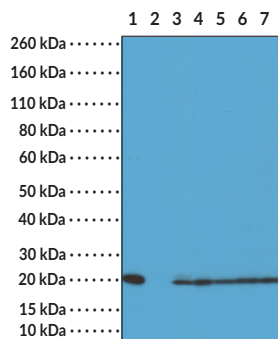
## Histone H2A (C-Term) Monoclonal Antibody (Clone RM225)

Item No. 32181

### Overview and Properties

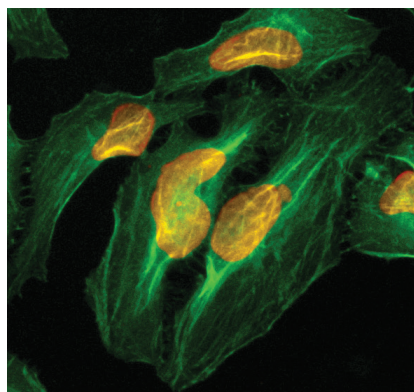
<b>Contents:</b>	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
<b>Immunogen:</b>	Peptide from the C-terminal region of human H2A
<b>Cross Reactivity:</b>	(+) H2A independent of PTMs; (-) H2B, other histone proteins
<b>Species Reactivity:</b>	(+) Vertebrates
<b>Form:</b>	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>	1.0 mg/ml
<b>Clone:</b>	RM225
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	ELISA, Immunocytochemistry (ICC), Multiplex-based assays, and Western blot (WB); the recommended starting concentration for ELISA and multiplex-based assays is 0.2-1 µg/ml, 1-2 µg/ml for ICC, 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: H2A  
Lane 2: H2B  
Lane 3: HeLa  
Lane 4: A375  
Lane 5: SK-MEL-2  
Lane 6: A431  
Lane 7: K562

WB of recombinant histone H2A and H2B proteins and HeLa, A375, SK-MEL-2, A431, and K562 whole cell lysates using Histone H2A (C-Term) Monoclonal Antibody (Clone RM225) at a concentration of 0.5 µg/ml.



Immunocytochemical staining of HeLa cells using Histone H2A (C-Term) Monoclonal Antibody (Clone RM225) (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**  
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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**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

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## Description

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Histone H2A 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 a variety of post-translational modifications (PTMs), including ubiquitination, acetylation, methylation, and phosphorylation, which function as epigenetic regulators of transcription.<sup>1,2</sup> Histone H2A contains a C-terminal tail that, in contrast to other core histones, also extends outside of the nucleosome core and is highly variable, yielding a number of H2A variants that are subject to PTMs and differentially regulate nucleosome stability and chromatin structure.<sup>3</sup> Serum histone H2A autoantibodies have been found in patients with drug-induced or spontaneous systemic lupus erythematosus (SLE).<sup>4</sup> Cayman's Histone H2A (C-Term) Monoclonal Antibody (Clone RM225) can be used for ELISA, immunocytochemistry (ICC), multiplex-based assay, and Western blot (WB) applications. This antibody recognizes the C-terminal region of histone H2A independent of PTMs.

## 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. 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).
3. Corujo, D. and Buschbeck, M. Post-translational modifications of H2A histone variants and their role in cancer. *Cancers (Basel)* **10(3)**, 59 (2018).
4. Burlingame, R.W. and Rubin, R.L. Autoantibody to the nucleosome subunit (H2A-H2B)-DNA is an early and ubiquitous feature of lupus-like conditions. *Mol. Biol. Rep.* **23(3-4)**, 159-166 (1996).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
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[734] 971-3335  
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