

# PRODUCT INFORMATION



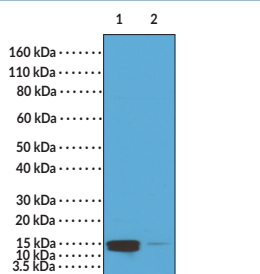
## Histone H2AS1Ph Monoclonal Antibody (RM216)

Item No. 32163

### Overview and Properties

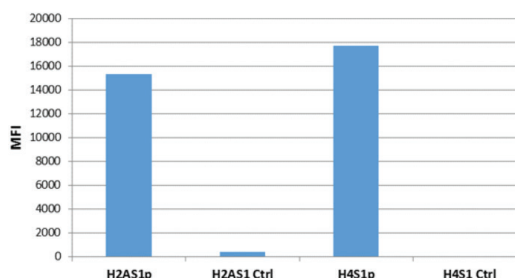
<b>Contents:</b>	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	H2ApS1, H2ApSer1, H2A (Phospho-Ser1), Phospho-Histone H2A Serine 1, Phosphorylated Histone H2A Serine 1
<b>Immunogen:</b>	Peptide corresponding to H2AS1Ph
<b>Cross Reactivity:</b>	(+) H2AS1Ph, H4S1Ph; (-) Unmodified H2AS1, unmodified H4S1
<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>	RM216
<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 is 0.2-1 µg/ml, 1-2 µg/ml for ICC, 0.1-1 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

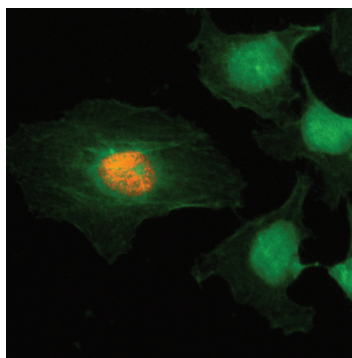


Lane 1: HeLa cells treated  
Lane 2: HeLa cells untreated

WB of acid extracts of HeLa cells treated with nocodazole or left untreated using Histone H2AS1Ph Monoclonal Antibody (RM216) at a concentration of 0.5 µg/ml, which showed histone H2A and H4 phosphorylated at serine 1 in HeLa cells.



Histone H2AS1Ph Monoclonal Antibody (RM216) specifically reacts to H2AS1Ph and H4S1Ph. There is no cross reactivity with unmodified H2AS1 or unmodified H4S1.



Immunofluorescent labeling of HeLa cells using Histone H2AS1Ph Monoclonal Antibody (RM216) (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 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> 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> Phosphorylation of histone H2A at serine 1 (H2AS1Ph) is mediated by p90 ribosomal S6 kinase 5 (RSK5) and is associated with transcriptional repression.<sup>3</sup> H2AS1Ph is enriched during mitosis in *C. elegans*, *Drosophila*, and HeLa cells, as well as during meiotic recombination in mouse spermatozoa.<sup>4-6</sup> Cayman's Histone H2AS1Ph Monoclonal Antibody (RM216) can be used for ELISA, immunocytochemistry (ICC), multiplex-based assay, and Western blot (WB) applications. This antibody is cross-reactive with histone H4 phosphorylated at serine 1 (H4S1Ph).

## References

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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).
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4. Barber, C.M., Turner, F.B., Wang, Y., *et al.* The enhancement of histone H4 and H2A serine 1 phosphorylation during mitosis and S-phase is evolutionarily conserved. *Chromosoma* **112**(7), 360-371 (2004).
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