

# PRODUCT INFORMATION



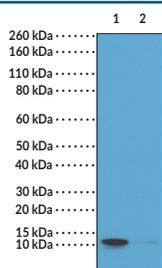
## Histone H4S1Ph Monoclonal Antibody (RM194)

Item No. 32154

### Overview and Properties

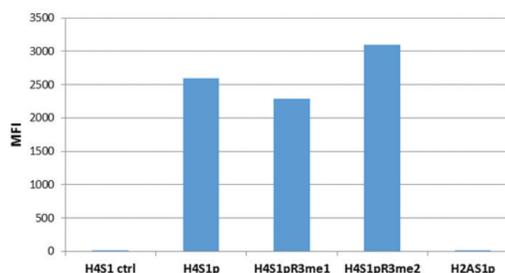
<b>Contents:</b>	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	H4pS1, H4pSer1, Histone H4 (Phospho-Ser1), Phospho-Histone H4 Serine 10, Phosphorylated Histone H4 Serine 1
<b>Immunogen:</b>	Peptide corresponding to H4S1Ph
<b>Cross Reactivity:</b>	(+) H4S1Ph, H4S1Ph/R3Me1, H4S1Ph/R3Me2; (-) Unmodified histone H4, H2AS1Ph
<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>	RM194
<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

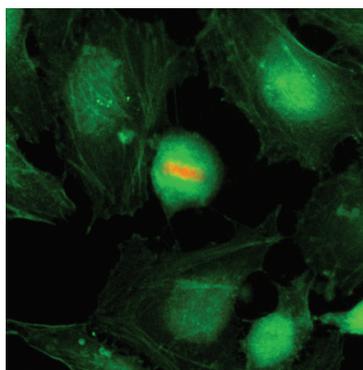


Lane 1: Acid extracts of HeLa cells  
Lane 2: Recombinant histone H4

WB of Acid Extracts of HeLa cells and Recombinant Histone H4 Using 0.5 µg/ml of Histone H4S1Ph Monoclonal Antibody (RM194). This showed a band of H4S1Ph in HeLa cells.



Histone H4S1Ph Monoclonal Antibody (RM194) Specifically Reacts to H4S1Ph. The reactivity is not affected by neighboring arginine 3 modifications (H4S1PhR3Me1 and H4S1PhR3Me2). No cross reactivity with H2AS1Ph.



Immunocytochemistry of HeLa Cells Using Histone H4S1Ph Monoclonal Antibody (RM194) (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.

Copyright Cayman Chemical Company, 02/26/2024

**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 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> Phosphorylation of histone H4 at serine 1 (H4S1Ph) is increased during the S-phase and mitosis in HeLa cells, *C. elegans*, and *Drosophila*, as well as during spermatogenesis in mice.<sup>3,4</sup> MG-63 cells expressing a serine-to-alanine substitution at Ser<sup>1</sup> in histone H4, which abolishes its phosphorylation, have reduced markers of autophagy. Cayman's Histone H4S1Ph Monoclonal Antibody (RM194) can be used for ELISA, immunocytochemistry (ICC), multiplex-based assays, and Western blot (WB) applications.

## References

---

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. 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).
4. Krishnamoorthy, T., Chen, X., Govin, J., *et al.* Phosphorylation of histone H4 Ser1 regulates sporulation in yeast and is conserved in fly and mouse spermatogenesis. *Genes Dev.* **20**(18), 2580-2592 (2006).