

PRODUCT INFORMATION



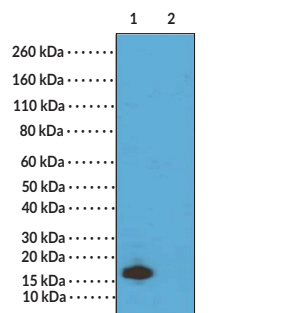
Histone H3S10Ph Monoclonal Antibody (Clone RM163)

Item No. 20720

Overview and Properties

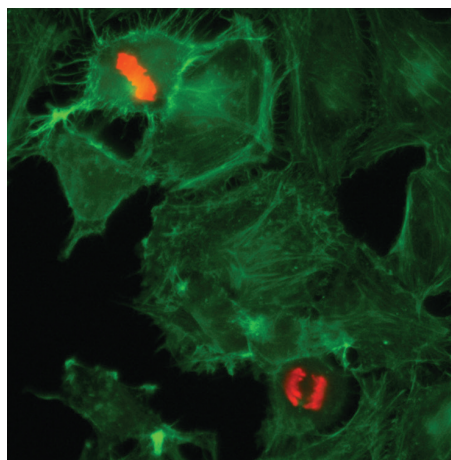
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	H3pS10, H3pSer10, Histone H3 (Phospho-Ser10), Phospho-Histone H3 Serine 10, Phosphorylated Histone H3 Serine 10
Immunogen:	Peptide corresponding to H3S10Ph
Cross Reactivity:	(+) H3S10Ph; (-) Other phosphorylated histones
Species Reactivity:	(+) Vertebrates
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	RM163
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, immunocytochemistry (ICC), multiplex-based assay, and Western blot (WB); the recommended starting concentration for ELISA is 0.2-1 µg/ml, 0.5-2 µg/ml for ICC and WB, and 0.1-1 µg/ml for multiplex-based assay. 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. Acid extracts of HeLa cells treated with nocodazole or left untreated were subjected to WB using 0.5 µg/ml of Histone H3S10Ph Monoclonal Antibody (Clone RM163), which showed a band of histone H3 phosphorylated at serine 10 in HeLa cells.



Immunocytochemistry of HeLa cells using Histone H3S10Ph Monoclonal Antibody (Clone RM163) (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, 10/31/2023

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 H3 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.¹ It is a globular protein that contains an unstructured N-terminal tail that extends outside of the nucleosome core and is subject to various post-translational modifications (PTMs), including methylation, phosphorylation, acetylation, and citrullination.^{1,2} Phosphorylation of histone H3 at serine 10 (H3S10Ph) is correlated with chromatin condensation during mitosis and with transcriptional activation of genes during interphase.^{3,4} H3S10Ph does not inhibit binding of the ADD domain of the chromatin-remodeling protein ATRX to histone H3 N-terminal peptides due to its positioning away from the core peptide binding sequence but does decrease binding of the HP1 α chromodomain (CD) when the histone H3 peptide is also trimethylated at lysine 9.⁵ Low median levels of H3S10Ph in tumor tissue isolated from patients with oral squamous cell carcinoma (OSCC) are associated with cervical lymph node metastasis.⁶ Cayman's Histone H3S10Ph Monoclonal Antibody (Clone RM163) can be used for ELISA, immunocytochemistry (ICC), multiplex-based assay, and Western blot (WB) applications.

References

1. Hyun, K., Jeon, J., Park, K., *et al.* Writing, erasing and reading histone lysine methylations. *Exp. Mol. Med.* **49(4)**, e324 (2017).
2. Sharda, A., Amnekar, R.V., Natu, A., *et al.* Histone posttranslational modifications: Potential role in diagnosis, prognosis, and therapeutics of cancer. *Prognostic Epigenetics*. Sharma, S., editor, *Academic Press* (2019).
3. Sawicka, A. and Seiser, C. Histone H3 phosphorylation - A versatile chromatin modification for different occasions. *Biochimie* **94(11)**, 2193-2201 (2012).
4. Prigent, C. and Dimitrov, S. Phosphorylation of serine 10 in histone H3, what for? *J. Cell. Sci.* **116(Pt. 18)**, 3677-3685 (2003).
5. Noh, K.M., Maze, I., Zhao, D., *et al.* ATRX tolerates activity-dependent histone H3 methyl/phos switching to maintain repetitive element silencing in neurons. *Proc. Natl. Acad. Sci. USA* **112(22)**, 6820-6827 (2015).
6. Campos-Fernández, E., Matsuo, F.S., Andrade, M.F., *et al.* Prognostic value of histone H3 serine 10 phosphorylation and histone H4 lysine 12 acetylation in oral squamous cell carcinoma. *Histopathology* **74(2)**, 227-238 (2019).

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