

PRODUCT INFORMATION



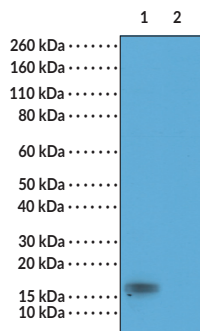
Histone H3T11Ph Monoclonal Antibody (RM164)

Item No. 32167

Overview and Properties

Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	H3pT11, H3pThr11, Histone H3 (Phospho-Thr11), Phospho-Histone H3 Threonine 11, Phosphorylated Histone H3 Threonine 11
Immunogen:	Peptide corresponding to H3T11Ph
Cross Reactivity:	(+) H3T11Ph; (-) 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:	RM164
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, multiplex-based assays, and Western blot (WB); the recommended starting concentration for ELISA is 0.2-1 µg/ml, 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.

Image



Lane 1: HeLa cells with nocodazole
Lane 2: HeLa cells (untreated)

WB of Acid Extracts of HeLa cells Treated with Nocodazole or left Untreated Using 0.5 µg/ml of Histone H3T11Ph Monoclonal Antibody (RM164). This showed a band of H3T11Ph in HeLa cells.

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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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 threonine 11 (H3T11Ph) occurs during mitosis in mammalian cells and localizes to the centromeric regions of chromosomes during metaphase.³ H3T11 can be phosphorylated by multiple kinases such as PKC-related kinase (PRK1), which mediates androgen-induced phosphorylation of H3T11 at the androgen receptor target genes *PSA* and *KLK2* in LNCaP cells, and checkpoint kinase 1 (Chk1), which phosphorylates H3T11 at the promoter regions of the genes encoding cyclin B1 and Cdk1 in mice.^{4,5} High levels of H3T11Ph in tumor tissue isolated from patients with prostate cancer correlate with high Gleason scores, which are associated with aggressive tumors.⁴ Cayman's Histone H3T11Ph Monoclonal Antibody (RM164) can be used for ELISA, multiplex-based assays, 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. Cerutti, H. and Casas-Mollano, J.A. Histone H3 phosphorylation: Universal code or lineage specific dialects? *Epigenetics* **4(2)**, 71-75 (2009).
4. Metzger, E., Yin, N., Wissmann, M., *et al.* Phosphorylation of histone H3 at threonine 11 establishes a novel chromatin mark for transcriptional regulation. *Nat. Cell Biol.* **10(1)**, 53-60 (2008).
5. Moraes, I. and Casas-Mollano, J.A. Histone H3 phosphorylation in plants and other organisms. *Epigenetics in plants of agronomic importance: Fundamentals and applications*. 1st edition, *Springer* (2014).

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