

PRODUCT INFORMATION



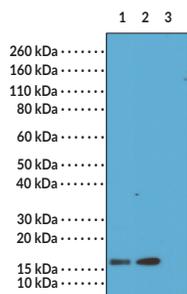
Histone H3.3 Monoclonal Antibody (Clone RM190)

Item No. 32185

Overview and Properties

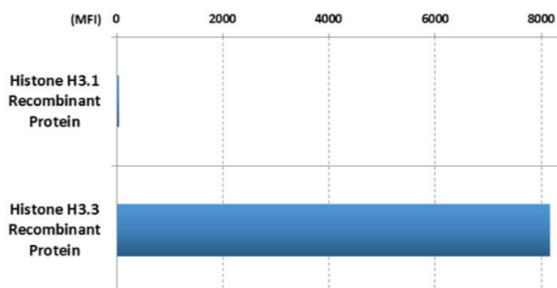
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	H3.3A, H3F3
Immunogen:	Peptide corresponding to human histone H3.3
Cross Reactivity:	(+) H3.3 independent of PTMs; (-) H3.1, other histone proteins
Species Reactivity:	(+) Vertebrates
Form:	Liquid
Storage:	-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:	RM190
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, 0.05-0.5 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 whole cell lysate
Lane 2: Recombinant histone H3.3
Lane 3: Recombinant histone H3.1

WB of HeLa Whole Cell Lysate, Recombinant Histone H3.3 and Histone H3.1 Proteins Using 1 µg/ml of Histone H3.3 Monoclonal Antibody (Clone RM190). This showed a band of histone H3.3 in HeLa cells and recombinant H3.3 protein and no cross activity with histone H3.1.



Histone H3.3 Monoclonal Antibody (Clone RM190) Specifically Reacts to Histone H3.3. No cross reactivity with histone H3.1.

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

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). Metazoans have three histone variants: canonical histone H3.1, DNA replication-independent histone H3.3, and the centromeric variant CENP-A.² Histone H3.3 is incorporated into chromatin in a DNA replication-independent manner at sites of active transcription.²⁻⁴ Mutations in *H3F3A*, the gene encoding histone H3.3 in humans, at or close to lysine 27 or glycine 34 induce upregulation of the oncogene *MYCN* and are correlated with poor survival in patients with pediatric glioblastoma.⁴ Cayman's Histone H3.3 Monoclonal Antibody (Clone RM190) 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. Elsaesser, S.J., Goldberg, A.D., and Allis, C.D. New functions for an old variant: No substitute for histone H3.3. *Curr. Opin. Genet. Dev.* **20(2)**, 110-117 (2010).
3. Tagami, H., Ray-Gallett, D., Almouzni, G., *et al.* Histone H3.1 and H3.3 complexes mediate nucleosome assembly pathways dependent or independent of DNA synthesis. *Cell* **116(1)**, 51-61 (2004).
4. Bjerke, L., Mackay, A., Nandhabalan, M., *et al.* Histone H3.3 mutations drive pediatric glioblastoma through upregulation of *MYCN*. *Cancer Discov.* **3(5)**, 512-519 (2013).

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