

PRODUCT INFORMATION

Histone H3.3G34V Rabbit Monoclonal Antibody - Biotinylated (Clone RM307)

Item No. 42870

Overview and Properties

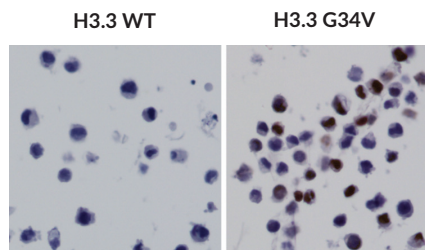
Contents:	This vial contains 50 µl of protein A-affinity purified monoclonal antibody.
Immunogen:	A peptide corresponding to histone H3.3 ^{G34V}
Cross Reactivity:	(+) Histone H3.3 ^{G34V} ; (-) Wild-type histone H3.3
Species Reactivity:	(+) Species Independent
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥20 year
Storage Buffer:	50% Glycerol/PBS with 1% BSA and 0.09% sodium azide
Clone:	RM307
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunohistochemistry (IHC), Western blot (WB); the recommended starting dilution for ELISA is 1:500-1:5,000, 1:100-1:500 for IHC, and 1:1,000-1:10,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: WT
Lane 2: G34V

WB of cell/tissue lysates prepared from 293T and transfected with a DNA construct encoding wild type (WT) or G34V mutant Histone H3.3 using Histone H3.3^{G34V} Rabbit Monoclonal Antibody - Biotinylated (Clone RM307).



Immunohistochemical staining of formalin-fixed and paraffin-embedded 293T cells transfected with a DNA construct encoding wild type (WT) or G34V mutant Histone H3.3 using Histone H3.3^{G34V} Rabbit Monoclonal Antibody - Biotinylated (Clone RM307).

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 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 A missense mutation replacing guanine with adenine in *H3F3A*, the gene encoding histone H3.3, leads to a glycine-to-valine substitution, histone H3.3^{G34V}, which is associated with glioblastoma multiforme in children and young adults.⁵ Cayman's Histone H3.3^{G34V} Rabbit Monoclonal Antibody (Clone RM307) - Biotinylated can be used for ELISA, immunohistochemistry (IHC), 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. 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).
4. 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).
5. Schwartzenruber, J., Korshunov, A., Liu, X.-Y., *et al.* Driver mutations in histone H3.3 and chromatin remodelling genes in paediatric glioblastoma. *Nature* **482**(7384), 226-231 (2012).

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