PRODUCT INFORMATION

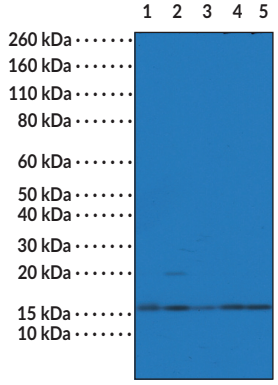
Histone H2A.Z (C-Term) Monoclonal Antibody (Clone RM215)

Item No. 32184

Overview and Properties

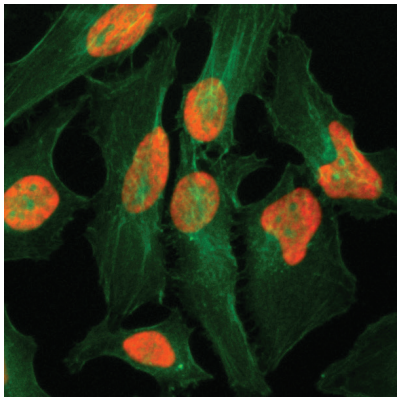
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	H2AZ
Immunogen:	Peptide from the C-terminal region of human histone H2A.Z
Cross Reactivity:	(+) H2A.Z independent of PTMs; (-) Other histone proteins
Species Reactivity:	(+) Vertebrates
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1.0 mg/ml
Clone:	RM215
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunocytochemistry (ICC), Multiplex-based assay, and Western blot (WB); the recommended starting concentration is 0.1-1 µg/ml for ELISA and multiplex-based assays, 1-2 µg/ml for ICC, and 0.1-0.5 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: HeLa cell lysates
Lane 2: HEK293 cell lysates
Lane 3: A375 cell lysates
Lane 4: SK-MEL-2 cell lysates
Lane 5: A431 cell lysates

WB of A375, A431, HEK293, HeLa, and SK-MEL-2 whole cell lysates, using Histone H2A.Z (C-Term) Monoclonal Antibody (Clone RM215) at a concentration of 0.5 µg/ml.



Immunofluorescent labeling of HeLa cells, using Histone H2A.Z (C-Term) Monoclonal Antibody (Clone RM215) (red). Actin filaments have been labeled with fluorescein phalloidin (green).

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Description

Histone H2A.Z is a variant of histone H2A, a nuclear protein and a component of the nucleosome core.[1,2] It is a globular protein containing unstructured N- and C-terminal tails that extend outside of the nucleosome core that are subject to a variety of post-translational modifications (PTMs), including acetylation, methylation, and ubiquitination, which function as epigenetic regulators of transcription.[3] Histone H2A.Z influences chromatin accessibility and nucleosome stability, regulating various cellular functions, including DNA replication and repair, mitosis, heterochromatin formation, and chromosome segregation.[1,4] It is enriched at gene promoters and associated with active or repressed gene transcription in a manner dependent on species or PTMs, among other factors.[4,5] Increased tumor H2A.Z levels are associated with decreased overall survival in patients with breast cancer.[6] Cayman's Histone H2A.Z (C-Term) Monoclonal Antibody (Clone RM215) can be used for ELISA, immunocytochemistry (ICC), multiplex-based assay, and Western blot (WB) applications. The antibody recognizes the C-terminal region of histone H2A.Z independent of PTMs.

References

1. Bönisch, C. and Hake, S.B. Histone H2A variants in nucleosomes and chromatin: More or less stable? *Nucleic Acids Res.* **40(21)**, 10719-10741 (2012).
2. Hyun, K., Jeon, J., Park, K., *et al.* Writing, erasing and reading histone lysine methylations. *Exp. Mol. Med.* **49(4)**, e324 (2017).
3. Corujo, D. and Buschbeck, M. Post-translational modifications of H2A histone variants and their role in cancer. *Cancers (Basel)* **10(3)**, 59 (2018).
4. Monteiro, F.L., Baptista, T., Amado, F., *et al.* Expression and functionality of histone H2A variants in cancer. *Oncotarget* **5(11)**, 3428-3443 (2014).
5. Marques, M., Laflamme, L., Gervais, A.L., *et al.* Reconciling the positive and negative roles of histone H2A.Z in gene transcription. *Epigenetics* **5(4)**, 267-272 (2010).
6. Hua, S., Kallen, C.B., Dhar, R., *et al.* Genomic analysis of estrogen cascade reveals histone variant H2A.Z associated with breast cancer progression. *Mol. Syst. Biol.* **4(1)**, 188 (2008).

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