PRODUCT INFORMATION

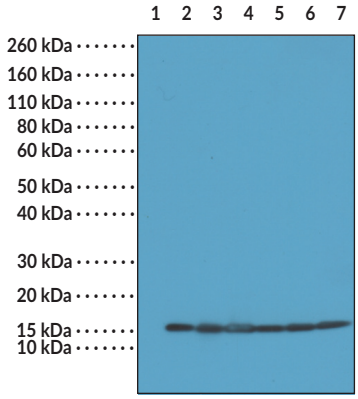
Histone H2B (C-Term) Monoclonal Antibody (Clone RM230)

Item No. 32182

Overview and Properties

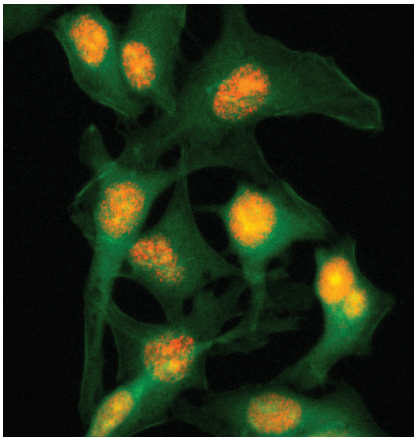
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Immunogen:	Peptide corresponding to the C-terminal region of human H2B
Cross Reactivity:	(+) H2B independent of PTMs; (-) H2A, other histone proteins
Species Reactivity:	(+) Vertebrates
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1.0 mg/ml
Clone:	RM230
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunocytochemistry (ICC), Multiplex-based assays, and Western blot (WB); the recommended starting concentration is 0.2-1 µg/ml for ELISA and multiplex-based assays, 0.5-1 µg/ml for ICC, and 0.1-1 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Recombinant histone H2A
Lane 2: Recombinant histone H2B
Lane 3: HeLa cell lysates
Lane 4: A375 cell lysates
Lane 5: SK-MEL-2 cell lysates
Lane 6: A431 cell lysates
Lane 7: K562 cell lysates

WB of recombinant histones H2A, H2B and HeLa, A375, SK-MEL-2, A431, and K562 cell lysates using Histone H2B (C-Term) Monoclonal Antibody (Clone RM230) at a concentration of 0.2 µg/ml.



Immunofluorescent labeling of HeLa cells labeled with Histone H2B (C-Term) Monoclonal Antibody (Clone RM230) (red). Actin filaments have been labeled with fluorescein phalloidin (green).

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Description

Histone H2B 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 a histone fold domain with a C-terminal α-helix that facilitates nucleosome interactions and chromatin compaction, as well as an unstructured N-terminal tail that extends outside of the nucleosome core, both of which are subject to various post-translational modifications (PTMs), including ubiquitination, acetylation, methylation, and phosphorylation.[1-3] Histone H2B PTMs function as epigenetic regulators of gene transcription by affecting chromatin structure, influencing the interaction between transcriptional regulatory proteins with DNA, and regulating several cellular functions including gene expression, apoptosis, and DNA repair.[2-5] Increased tumor expression of *HIST1H2BJ*, the gene encoding wild-type histone H2B, is associated with prolonged overall survival and improved prognosis in patients with cervical cancer.[6] Serum histone H2B autoantibodies have been found in patients with drug-induced or spontaneous systemic lupus erythematosus (SLE).[7] Cayman's Histone H2B (C-Term) Monoclonal Antibody (Clone RM230) can be used for ELISA, immunocytochemistry (ICC), multiplex-based assay, and Western blot (WB) applications. This antibody recognizes the C-terminus of histone H2B independent of PTMs.

References

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5. Sun, Z.-W. and Allis, C.D. Ubiquitination of histone H2B regulates H3 methylation and gene silencing in yeast. *Nature* **418(6893)**, 104-108 (2002).
6. Li, X., Tian, R., Gao, H., *et al*. Identification of a histone family gene signature for predicting the prognosis of cervical cancer patients. *Sci. Rep*. **7(1)**, 16495 (2017).
7. Doyle, H.A., Aswad, D.W., and Mamula, M.J. Autoimmunity to isomerized histone H2B in systemic lupus erythematosus. *Autoimmunity* **46(1)**, 6-13 (2013).

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