PRODUCT INFORMATION

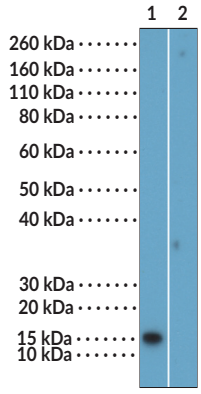
Histone H2BK5Ac Rabbit Monoclonal Antibody (Clone RM455)

Item No. 42790

Overview and Properties

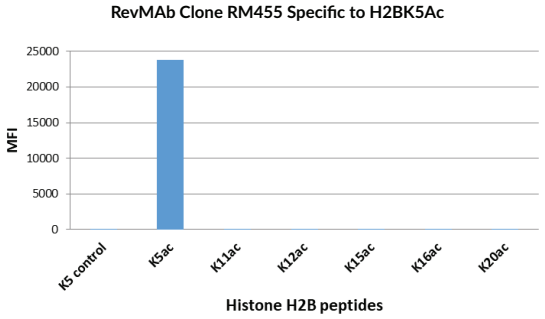
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonym:	Acetylated Histone H2B Lysine 5
Immunogen:	Peptide corresponding to H2BK5Ac
Cross Reactivity:	(+) H2BK5Ac; (-) Unmodified H2BK5, H2B11Ac, H2BK12Ac, H2BK15Ac, H2BK16Ac, H2BK20Ac
Species Reactivity:	(+) Human, 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:	RM455
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Multiplex-based assay, Western blot (WB); the recommended starting concentration is 0.2-1 µg/ml for ELISA, 0.01-0.5 µg/ml for mulitplex-based assay, and 0.01-1 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Sodium butyrate (treated)
Lane 2: Sodium butyrate (untreated)

WB of acid extracts of HeLa cells treated or untreated with sodium butyrate, using Histone H2BK5Ac Rabbit Monoclonal Antibody (Clone RM455) at a concentration of 0.02 µg/ml.



Histone H2BK5Ac Rabbit Monoclonal Antibody (Clone RM455) reacts to histone H2B acetylated at lysine 5 (K5Ac). No cross reactivity with non-modified lysine 5 or other acethylations in histone H2B.

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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] Acetylation of histone H2B at lysine 5 (H2BK5Ac) promotes the expression of genes associated with maintenance of the epithelial phenotype in trophoblast stem cells and stem-like claudin-low breast cancer cells.[4] Histone H2BK5Ac is enriched at cardiac and renal promotors in diabetic rats.[5] Cayman's Histone H2BK5Ac Rabbit Monoclonal Antibody (Clone RM455) can be used for ELISA, multiplex-based assay, 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. Wyrick, J.J. and Parra, M.A. The role of histone H2A and H2B post-translational modifications in transcription: A genomic perspective. *Biochim. Biophys. Acta* **1789(1)**, 37-44 (2009).
3. Wang, C.-Y., Hua, C.-Y., Hsu, H.-E., *et al.* The C-terminus of histone H2B is involved in chromatin compaction specifically at telomeres, independently of its monoubiquitylation at lysine 123. *PLoS One* **6(7)**, e22209 (2011).
4. Mobley, R.J., and Abell, A.N. Controlling epithelial to mesenchymal transition through acetylation of histone H2BK5. *J. Nat. Sci.* **3(9)**, e432 (2017).
5. Malek, V., Sharma, N., and Gaikwad, A.B. Histone acetylation regulates natriuretic peptides and nepri lysin gene expressions in diabetic cardiomyopathy and nephropathy. *Curr. Mol. Pharmacol.* **12(1)**, 61-71 (2019).

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