

#13939 Store at -20°C

Symmetric Di-Methyl Histone H3 (Arg8) (E1W5H) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	17	Rabbit IgG	#P68431	8350

Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Symmetric Di-Methyl Histone H3 (Arg8) (E1W5H) Rabbit mAb recognizes endogenous levels of histone H3 protein only when symmetrically di-methylated at Arg8. This antibody may have a slight cross reactivity towards histone H3 protein when mono-methylated at Arg8.	
Species predicted to react based on 100% sequence homology:	Zebrafish, Bovine, S. cerevisiae	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human histone H3 in which Arg8 is symmetrically di-methylated.	
Background	<p>The nucleosome is the primary chromatin building block and consists of DNA wrapped around an octamer made of paired histone proteins H2A, H2B, H3, and H4. Chromatin remodeling plays a critical role in the regulation of various nuclear activities, including transcription. Histone proteins are targets of post-translational modification, including acetylation, phosphorylation, ubiquitination, and methylation. Modified histone residues are recognized and bound by chromatin modifiers and the transcription machinery to regulate gene expression (1-4). Protein arginine methyltransferases (PRMTs) methylate histone proteins at arginine residues to generate mono-methylated, symmetrically di-methylated, or asymmetrically di-methylated proteins. Asymmetrically di-methylated arginine residues are found on histone H3 (Arg2, 8, 17, 26, and 42), histone H4 (Arg3), and histone H2A (Arg3) proteins. Asymmetric methylation is carried out by type I PRMTs, which include PRMT1, PRMT2, PRMT4/CARM1, and PRMT6. These modifications are often associated with actively transcribed genes. Symmetric di-methylation of arginine residues are found on histone H3 (Arg2 and 8), histones H4 (Arg3), and H2A (Arg3). Symmetrically di-methylated histone arginine residues are generated by type II transferases PRMT5 and PRMT7, and are often associated with transcription repression (5-9). Arginine residues can also be deiminated by a peptidyl arginine deiminase (PADI) to form the non-coded amino acid citrulline. Conversion of arginine to citrulline prevents methylation of this residue and is thought to regulate histone arginine methylation levels (10-13).</p>	
Background References	<ol style="list-style-type: none"> Swygert, S.G. and Peterson, C.L. (2014) <i>Biochim Biophys Acta</i>, 728-36. Zentner, G.E. and Henikoff, S. (2013) <i>Nat Struct Mol Biol</i> 20, 259-66. Rothbart, S.B. and Strahl, B.D. (2014) <i>Biochim Biophys Acta</i>, 627-43. Gayatri, S. and Bedford, M.T. (2014) <i>Biochim Biophys Acta</i>, 702-10. Wysocka, J. et al. (2006) <i>Front Biosci</i> 11, 344-55. Di Lorenzo, A. and Bedford, M.T. (2011) <i>FEBS Lett</i> 585, 2024-31. Yang, Y. and Bedford, M.T. (2013) <i>Nat Rev Cancer</i> 13, 37-50. Molina-Serrano, D. et al. (2013) <i>Biochem Soc Trans</i> 41, 751-9. Casadio, F. et al. (2013) <i>Proc Natl Acad Sci USA</i> 110, 14894-9. Wang, Y. et al. (2004) <i>Science</i> 306, 279-83. Cuthbert, G.L. et al. (2004) <i>Cell</i> 118, 545-53. Zhang, X. et al. (2012) <i>Proc Natl Acad Sci USA</i> 109, 13331-6. Christophorou, M.A. et al. (2014) <i>Nature</i> 507, 104-8. 	

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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