

#2935 Store at -20C

Histone H4 (L64C1) Mouse mAb


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3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IHC-P	H M R Mk	Endogenous	11	Mouse IgG1	#P62805	8359

Product Usage Information	Application Western Blotting Immunohistochemistry (Paraffin)	Dilution 1:1000 1:300
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. For a carrier free (BSA and azide free) version of this product see product #42396.	
Specificity / Sensitivity	Histone H4 (L64C1) Mouse mAb detects endogenous levels of total histone H4 protein. The antibody does not cross-react with other histones.	
Species predicted to react based on 100% sequence homology:	D. melanogaster, Xenopus, Zebrafish, Bovine, C. elegans, Horse	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the amino-terminal sequence of human histone H4.	
Background	Modulation of chromatin structure plays an important role in the regulation of transcription in eukaryotes. The nucleosome, made up of DNA wound around eight core histone proteins (two each of H2A, H2B, H3, and H4), is the primary building block of chromatin (1). The amino-terminal tails of core histones undergo various posttranslational modifications, including acetylation, phosphorylation, methylation, and ubiquitination (2-5). These modifications occur in response to various stimuli and have a direct effect on the accessibility of chromatin to transcription factors and, therefore, gene expression (6). In most species, histone H2B is primarily acetylated at Lys5, 12, 15, and 20 (4,7). Histone H3 is primarily acetylated at Lys9, 14, 18, 23, 27, and 56. Acetylation of H3 at Lys9 appears to have a dominant role in histone deposition and chromatin assembly in some organisms (2,3). Phosphorylation at Ser10, Ser28, and Thr11 of histone H3 is tightly correlated with chromosome condensation during both mitosis and meiosis (8-10). Phosphorylation at Thr3 of histone H3 is highly conserved among many species and is catalyzed by the kinase haspin. Immunostaining with phospho-specific antibodies in mammalian cells reveals mitotic phosphorylation at Thr3 of H3 in prophase and its dephosphorylation during anaphase (11).	
Background References	1. Workman, J.L. and Kingston, R.E. (1998) <i>Annu Rev Biochem</i> 67, 545-79. 2. Hansen, J.C. et al. (1998) <i>Biochemistry</i> 37, 17637-41. 3. Strahl, B.D. and Allis, C.D. (2000) <i>Nature</i> 403, 41-5. 4. Cheung, P. et al. (2000) <i>Cell</i> 103, 263-71. 5. Bernstein, B.E. and Schreiber, S.L. (2002) <i>Chem Biol</i> 9, 1167-73. 6. Jaskelioff, M. and Peterson, C.L. (2003) <i>Nat Cell Biol</i> 5, 395-9. 7. Thorne, A.W. et al. (1990) <i>Eur J Biochem</i> 193, 701-13. 8. Hendzel, M.J. et al. (1997) <i>Chromosoma</i> 106, 348-60. 9. Goto, H. et al. (1999) <i>J Biol Chem</i> 274, 25543-9. 10. Preuss, U. et al. (2003) <i>Nucleic Acids Res</i> 31, 878-85. 11. Dai, J. et al. (2005) <i>Genes Dev</i> 19, 472-88.	

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)

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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