Histone H3K4me3 Antibody

Product Code	CSB-PA166887
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	GeneID:8290SwissProt:Q16695
Immunogen	A synthetic methylated peptide corresponding to residues surrounding K4 of Human histone H3
Raised In	Rabbit
Species Reactivity	Human,Mouse,Rat
Tested Applications	ELISA,WB,IHC,IF,IP,ChIP;WB:1:500-1:2000,IHC:1:50-1:200,IF:1:50-1:200,IP:1:50-1:200,ChIP:1:50-1:200

Relevance

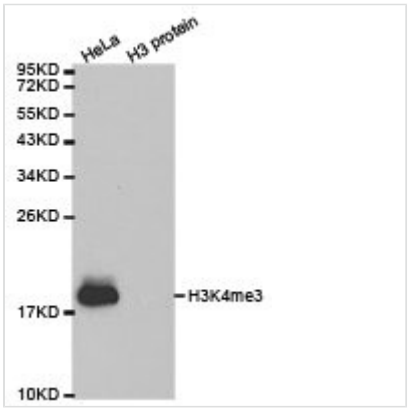
Modulation of chromatin structure plays an important role in the regulation of transcription in eukaryotes. The nucleosome, made up of DNA wound around eight core histone proteins (two each of H2A, H2B, H3, and H4), is the primary building block of chromatin (1). The amino-terminal tails of core histones undergo various post-translational 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).

1. Workman, J.L. and Kingston, R.E. (1998) Annu Rev Biochem 67, 545-79.
2. Hansen, J.C. et al. (1998) Biochemistry 37, 17637-41.
3. Strahl, B.D. and Allis, C.D. (2000) Nature 403, 41-5.
4. Cheung, P. et al. (2000) Cell 103, 263-71.
5. Bernstein, B.E. and Schreiber, S.L. (2002) Chem Biol 9, 1167-73.
6. Jaskelioff, M. and Peterson, C.L. (2003) Nat Cell Biol 5, 395-9.
7. Thorne, A.W. et al. (1990) Eur J Biochem 193, 701-13.
8. Hendzel, M.J. et al. (1997) Chromosoma 106, 348-60.
9. Goto, H. et al. (1999) J Biol Chem 274, 25543-9.
10. Preuss, U. et al. (2003) Nucleic Acids Res 31, 878-85.
11. Dai, J. et al. (2005) Genes Dev 19, 472-88.

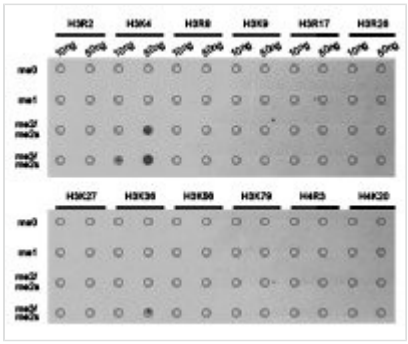
Form	Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Purification Method	Antigen Affinity Purified
Clonality	Polyclonal
Alias	HIST1H3J; H3/j; H3FJ; Histone H3.1; Histone H3/a; Histone H3/b; Histone H3/c; Histone H3/d; Histone H3/f; Histone H3/h; Histone H3/I; HistoneH3/j; Histone H3/k; Histone H3/l; HIST3H3;
Product Type	Polyclonal Antibody
Target Names	HIST3H3

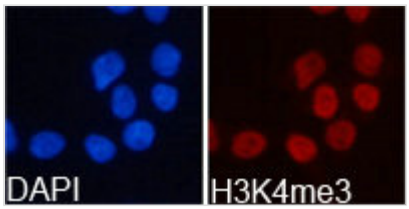
Image



Western blot analysis of extracts of HeLa cell line and H3 protein expressed in E.coli., using H3K4me3 antibody.



Dot-blot analysis of all sorts of methylation peptides using H3K4me3 antibody.



Immunofluorescence analysis of 293T cell using H3K4me3 antibody. Blue: DAPI for nuclear staining.

Product Modify	K4me3