

#HW002

# Histone H3K4me2 Polyclonal Antibody



**Catalog:** HW002      100µl      **Orders:** [order@signalwayantibody.com](mailto:order@signalwayantibody.com)  
**Storage:** Store at -20°C or -80°C.      **Support:** [tech@signalwayantibody.com](mailto:tech@signalwayantibody.com)  
 Avoid freeze / thaw cycles.      **Web:** [www.sabbiotech.com](http://www.sabbiotech.com)

Application	Species Reactivity	Source	Molecular Wt.
WB IHC IF IP ChIP	Hu Mu Rt Other(Wide range)	Rabbit Polyconal Ab	15kDa

**Description:** Antibodies were produced by immunizing rabbits and were purified by antigen affinity-chromatography.

**Immunogen:** A synthetic methylated peptide corresponding to residues surrounding K4 of human histone H3

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

**Synonyms:** 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/l; HistoneH3/j; Histone H3/k; Histone H3/l; HIST3H3;

**Accession No.:** Gene ID: 8290 Swiss Prot: Q16695

### 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 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).

### References:

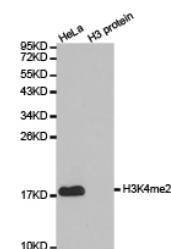
1. Workman, J.L. and Kingston, R.E. (1998) *Annu Rev Biochem* 67, 545-79.
2. Hansen, J.C. et al. (1998) *Biochemistry* 37, 17637-41.
3. Strahl, B.D. and Allis, C.D. (2000) *Nature* 403, 41-5.
4. Cheung, P. et al. (2000) *Cell* 103, 263-71.
5. Bernstein, B.E. and Schreiber, S.L. (2002) *Chem Biol* 9, 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.

*This product is for in vitro research use only and is not intended for use in humans or animals.*

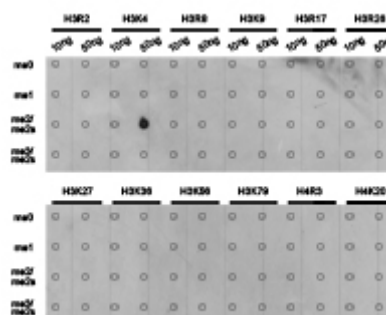
### Application:

#### Recommended Dilutions:

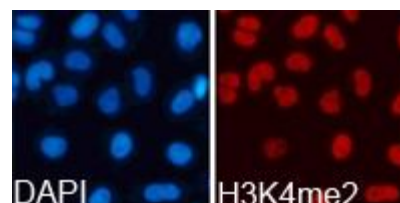
WB 1:500 - 1:2000  
 IHC 1:50 - 1:200  
 IF 1:50 - 1:200  
 IP 1:50 - 1:200  
 ChIP 1:50 - 1:200



Western blot analysis of extracts of HeLa cell line and H3 protein expressed in E.coli., using H3K4me2 antibody.



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



Immunofluorescence analysis of 293T cell using H3K4me2antibody. Blue: DAPI for nuclear staining.