

#9706 Store at -20°C

Phospho-Histone H3 (Ser10) (6G3) Mouse mAb

- Small 100 µl (10 western blots)
- Large 300 µl (30 western blots)



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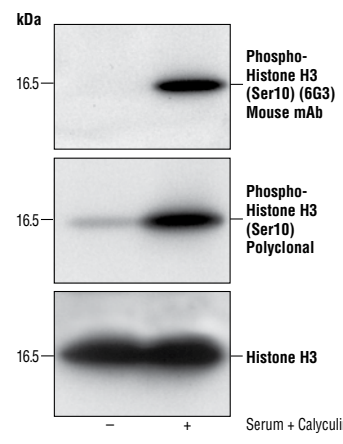
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IF-F, IF-IC, F Endogenous	H, M, R	17 kDa	Mouse IgG1**

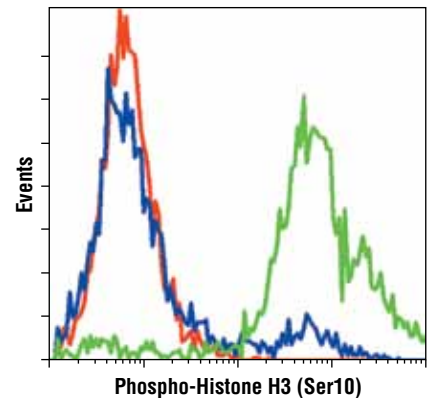
Background: Modulation of chromatin structure plays an important role in the regulation of transcription in eukaryotes. The nucleosome, made up of four core histone proteins (H2A, H2B, H3 and H4), is the primary building block of chromatin (1). The amino-terminal tails of core histones undergo various 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, on 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 and 23 (2,3). 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 of 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 of H3 Thr3 in prophase and its dephosphorylation during anaphase (11).

Specificity/Sensitivity: Phospho-Histone H3 (Ser10) (6G3) Mouse mAb detects endogenous levels of histone H3 only when phosphorylated at serine 10. The antibody does not cross-react with other phosphorylated histones or acetylated histone H3.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser10 of human histone H3.



Western blot analysis of whole cell lysates from NIH/3T3 cells, untreated or treated with serum plus calyculin A (to induce phosphorylation of H3), using Phospho-Histone H3 (Ser10) (6G3) Mouse mAb (top), Phospho-Histone H3 (Ser10) Polyclonal #9701 (middle) or Histone H3 Antibody #9712 (bottom).



Flow cytometric analysis of Phospho-Histone H3 (Ser10) (6G3) Mouse mAb staining of untreated (blue) or serum/calyculin-treated (green) Ramos cells compared to a nonspecific negative control antibody (red).

Entrez-Gene ID # 8352
Swiss-Prot Acc. # P68431

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.

***Species cross-reactivity is determined by western blot.**
****Anti-mouse secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunofluorescence (IF-IC)	1:100
Immunofluorescence (IF-F)	1:100
Flow Cytometry	1:25

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

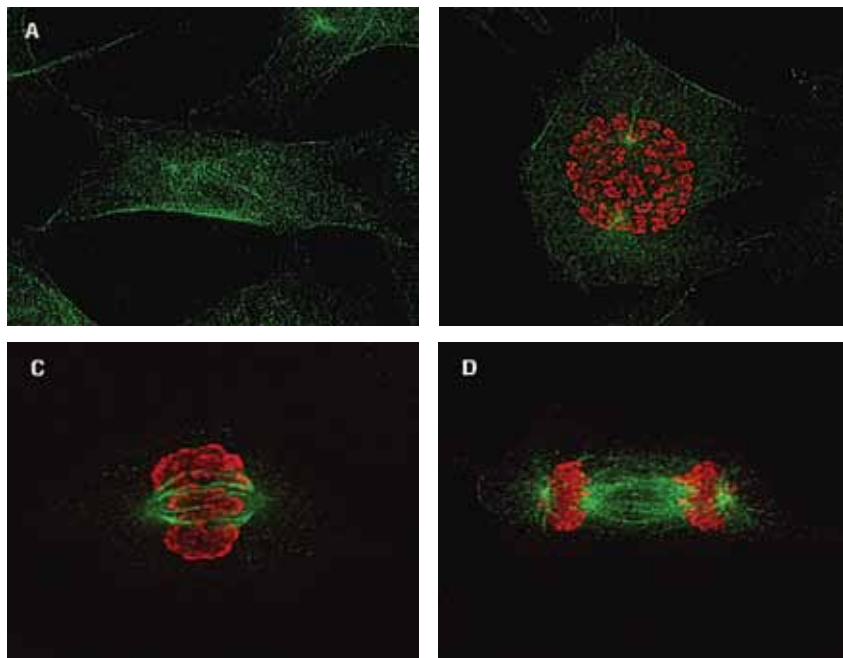
Background References:

- Workman, J.L. and Kingston, R.E. (1998) *Annu. Rev. Biochem.* 67, 545-579.
- Hansen, J.C. et al. (1998) *Biochemistry* 37, 17637-17641.
- Strahl, B.D. and Allis, C.D. (2000) *Nature* 403, 41-45.
- Cheung, P. et al. (2000) *Cell* 103, 263-271.
- Bernstein, B.E. and Schreiber, S.L. (2002) *Chem. Biol.* 9, 1167-1173.
- Jaskelioff, M. and Peterson, C.L. (2003) *Nat. Cell Biol.* 5, 395-399.
- Thorne, A.W. et al. (1990) *Eur. J. Biochem.* 193, 701-713.
- Hendzel, M.J. et al. (1997) *Chromosoma* 106, 348-360.
- Goto, H. et al. (1999) *J. Biol. Chem.* 274, 25543-25549.
- Preuss, U. et al. (2003) *Nucleic Acids Res.* 31, 878-885.
- Dai, J. et al. (2005) *Genes Dev.* 19, 472-488.

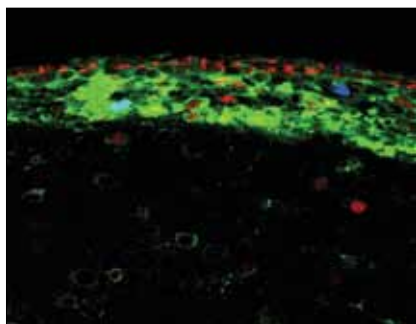
IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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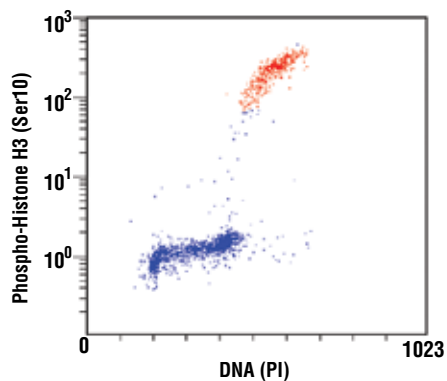
Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



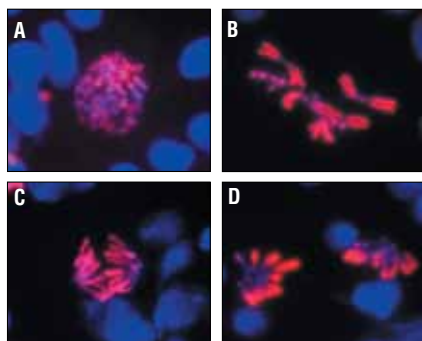
Confocal immunofluorescent images of NIH/3T3 cells labeled with Phospho-Histone H3 (Ser10) (6G3) Mouse mAb (red) and α/β -Tubulin Antibody #2148 (green) showing different stages of the cell cycle. Nonmitotic (A), prophase (B), metaphase (C) and anaphase (D).



Confocal immunofluorescent image showing proliferating/mitotic cells labeled with Phospho-Histone H3 (Ser10) (6G3) Mouse mAb (blue) in the subventricular zone following 4 h reperfusion after cerebral ischemia. Red = EGR1 antibody #4152. Green = Phospho-S6 Ribosomal Protein (Ser235/236) (2F9) Rabbit mAb (Alexa Fluor[®] 488 Conjugate) #4854.



Flow cytometry analysis of paclitaxel-treated THP1 cells, using Phospho-Histone H3 (Ser10) (6G3) Mouse mAb versus propidium iodide (DNA content). The red population indicates positive Phospho-Histone H3 cells.



Mitotic-specific staining of third instar wild type *Drosophila* larval neuroblasts, using Phospho-Histone H3 (Ser10) (6G3) Mouse mAb. Images show late prophase (A), metaphase (B) and anaphase (C, D). (provided by Marie-Louise Loupart, University of Edinburgh Scotland.)