#1083 Store at –20°C

Acetyl-Histone H3 (Lys9) Blocking Peptide

☑100 µg

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Entrez Gene ID #8350
UniProt ID #P68431

Description: This peptide is used to block Acetyl-Histone H3 (Lys9) (C5B11) Rabbit mAb #9649 reactivity in peptide dot blot protocols.

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).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks Acetyl-Histone H3 (Lys9) (C5B11) Rabbit mAb #9649 signal in peptide dot blot.

Directions for Use: Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptide dot blot protocols. Recommended antibody dilutions can be found on the relevant product data sheet.

Background 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.

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. 1% DMSO. Store at –20°C.

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

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

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **IC**—Immunocytochemistry **IF**—Immunofluorescence **F**—Flow cytometry **E**—ELISA **D**—DELFIA®

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **X**—Xenopus **Z**—zebra fish **B**—bovine **All**—all species expected

Species enclosed in parentheses are predicted to react based on 100% sequence homology.