

Product Information

Anti-Histone H1.4

produced in rabbit, affinity isolated antibody

Product Number **H7665**

Product Description

Anti-Histone H1.4 is produced in rabbit using as immunogen a synthetic peptide corresponding a fragment of human histone H1.4 (Gene ID: 3008), conjugated to KLH. The corresponding sequence is highly conserved (83% identity) in rat and mouse histone H1.4. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Histone H1.4 specifically recognizes human histone H1.4 (not tested in other species). The antibody can be used for immunoblotting (~35 kDa). Detection of the histone H1.4 band by immunoblotting is specifically inhibited by the immunizing peptide.

In eukaryotic cells, DNA is packaged into chromatin. The building block of chromatin is the nucleosome, which comprises of an octamer of core histones (H2A, H2B, H3, and H4) from which 147 bp of DNA are wrapped. Linker histone H1 binds to DNA between nucleosomal core particles and is involved in establishing and maintaining higher order chromatin structures. Histones are subjected to several covalent modifications, such as phosphorylation, methylation, acetylation and ubiquitination, that affect chromatin structure and regulate chromatin activity.^{1,2} Histone modifications are thought to play an important role in cancer and disease.³ In mammalian cells four histone H1 variants (H1.2 to H1.5) are present in all somatic cells, and a fifth (H1.1) is restricted to thymus, testis, and spleen and possibly lymphocytic and neuronal cells.⁴ Histone H1 is also covalently modified. Histone H1 phosphorylation occurs at multiple sites including at Ser²⁷ residue.⁵ Histone H1.4 is di-methylated or acetylated at Lys²⁶. Lys²⁶ is located within the flexible N-terminal domain of H1.4 just preceding the globular domain. H1.4 is methylated by Enhancer of Zeste 2 (Ezh2).⁶ HP1 has been shown to bind specifically via its chromo domain (CD) to methylated Lys²⁶ of histone H1, whereas simultaneous phosphorylation of neighboring Ser²⁷ prevents HP1 binding to H1.4.⁷

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using an acid-extracted fraction of HL60 cells.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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4. Khochbin, S., *Gene*, **271**, 1-12 (2001).
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6. Kuzmichev, A. et al., *Mol. Cell*, **14**, 183-193 (2004).
7. Daujat, S. et al., *J. Biol. Chem.*, **280**, 38090-38095 (2005).

VS,ER,KAA,PHC,MAM 03/19-1