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# Product Information

**Anti-acetyl-Histone H4 [Ac-Lys$^{12}$]**
produced in rabbit, IgG fraction of antiserum

Catalog Number **SAB4200353**

## Product Description

Anti-acetyl-Histone H4 [Ac-Lys$^{12}$] is produced in rabbit using as immunogen a synthetic peptide containing acetylated Lys$^{12}$ of human histone H4 (GeneID: 8290), conjugated to KLH. The corresponding sequence is identical in many species including rat and mouse histone H4. Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of antiserum.

Anti-acetyl-Histone H4 [Ac-Lys$^{12}$] specifically recognizes human and mouse acetylated histone H4 [Ac-Lys$^{12}$]. The antibody may be used in several immunochemical techniques including immunoblotting (~12 kDa), immunofluorescence and immunohistochemistry. Detection of the acetylated histone H4 [Ac-Lys$^{12}$] band by immunoblotting is specifically inhibited by the histone H4 [Ac-Lys$^{12}$] immunizing peptide, but not by the corresponding non-acetylated histone H4 peptide

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] These modifications may alter chromatin structure and recruit downstream chromatin-associated proteins involved in transcription regulation. These in turn, may dictate dynamic transitions between transcriptionally active or silent chromatin states. Histones H3 and H4 are the predominant histones subjected to extensive covalent modifications.[4,5] Active chromatin is also correlated with the hyperacetylation of histone tail. Histone H4 can be reversibly acetylated at Lys residues K5, K8, K12 and K16, and the acetylation is thought to occur initially at K16 and then to propagate in an N-terminal direction through K12, K8 and K5. Altered acetylation of histone H4 on Lys$^{12}$ (H4-K12Ac) has been recently shown to be associated with age-dependent memory impairment in mice.[6]

## Reagent

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

## Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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. 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 dilution of 1:500-1:1,000 is recommended using NIH3T3 cell lysates.

Immunofluorescence: a working dilution of 1:250-1:500 is recommended using HeLa cells.

Immunohistochemistry: a working dilution of 1:100-1:200 is recommended using formalin-fixed paraffin-embedded human breast carcinoma.

**Note**: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

## References

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6. Sasaki, K., et al., *Proc. Natl. Acad. Sci. USA*, **106**, 16267-16262, (2009).
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