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ProductInformation

Anti-Histone Deacetylase 8
Developed in Rabbit
Affinity Isolate Antibody

Product Number **H 8038**

Product Description

Anti-Histone Deacetylase 8 (HDAC8) is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 352-370 of human HDAC8, conjugated to KLH. The corresponding sequence in mouse differs by one amino acid. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Histone Deacetylase 8 recognizes human and mouse HDAC8. Applications include immunoblotting (~ 43 kDa), immunocytochemistry, and immunoprecipitation. Detection of the HDAC8 band by immunoblotting is specifically inhibited with the immunizing peptide. Additional weak bands may be detected by immunoblotting in some extract preparations.

Regulation of gene expression is mediated by several mechanisms; among them are DNA methylation, ATP-dependent chromatin remodeling, and posttranslational modifications of histones. These modifications include the dynamic acetylation and deacetylation of ε-amino groups of lysine residues present in the tail of core histones.[1] The enzymes responsible for this reversible acetylation/deacetylation process are histone acetyltransferases (HATs) and histone deacetylases (HDACs), respectively.[2] While HATs act as transcriptional coactivators, HDACs are part of transcriptional corepressor complexes.[3] Mammalian HDACs can be divided into three classes according to sequence homology.[4] Class I consists of the yeast Rpd3-like proteins HDAC1, HDAC2, HDAC3, and HDAC8. Class II consists of the yeast Hda1-like proteins HDAC4, HDAC5, HDAC6, HDAC7, HDAC9, and HDAC10.[5] Class III comprises the yeast Sir2-like proteins. Whereas class I HDACs are ubiquitously expressed, most class II HDACs are tissue-specific.[2] Class II HDACs have been implicated in the regulation of muscle differentiation.[6] Interaction of HDAC4, -5, and -7 with members of the MEF2 family of transcription factors represses their transcriptional activity and prevents myogenesis.[7] The deacetylase activity of class II HDACs is regulated by subcellular localization.[4]

HDAC8 gene encodes for a 377 amino acid protein that is localized primarily in the nucleus. It is expressed to various degrees in multiple normal and neoplastic cells and tissues.[8] It has been shown that HDAC8 is phosphorylated on Ser^{39} by cAMP-dependent kinase A (PKA) *in vitro* and *in vivo*. Hyperphosphorylation of HDAC8 decreases its enzymatic activity and leads to hyperacetylation of histones H3 and H4.[9]

Reagent

Anti-Histone Deacetylase 8 is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

Antibody Concentration: Approx. 0.8 mg/ml

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous 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 is not recommended. Storage in frost-free freezers is also 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

By immunoblotting, a working antibody concentration of 2-4 µg/ml is recommended using a whole extract of human colon adenocarcinoma SW620 cells and a chemiluminescent detection reagent.

By immunoprecipitation, 1-2 µg of the antibody immunoprecipitates HDAC8 from an extract of 293T cells expressing recombinant human HDAC8.

By indirect immunofluorescence, a working antibody concentration of 1-2 µg/ml is recommended using cultured 293T cells expressing recombinant human HDAC8.

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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