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ProductInformation

Anti-Histone Deacetylase 4 (HDAC4) (DM-15)
Developed in Rabbit
Affinity Isolated Antibody

Product Number **H 9536**

Product Description

Anti-Histone Deacetylase 4 (HDAC4) is developed in rabbit using a synthetic peptide corresponding to amino acid residues 14-28 of human HDAC4 with C-terminal added lysine conjugated to KLH as immunogen. The corresponding sequence is identical in mouse and differs by one amino acid in chicken. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Histone Deacetylase 4 (HDAC4), recognizes human, mouse, and rat HDAC4. Applications include immunoblotting (~140 kDa), immunoprecipitation, and immunofluorescence. Additional weak bands may be detected in immunoblotting using different extract preparations. Detection of HDAC4 by immunoblotting is specifically inhibited with the immunizing peptide.

Regulation of gene expression is mediated by several mechanisms. Among them are DNA methylation, ATP-dependent chromatin remodeling, and posttranslational modifications of histones, such as 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 consists of the yeast Sir2-like proteins. Whereas class I HDACs are ubiquitously expressed, most class II HDACs are tissue-specific.[2] The deacetylase activity of class II HDACs is regulated by subcellular localization.[4] Recently, it was found that HDAC4 possesses intrinsic nuclear import and export signals for its dynamic nucleocytoplasmic shuttling. Its association with 14-3-3 and MEF2 proteins, affects such shuttling and thus directs HDAC4 to the cytoplasm and the nucleus, respectively.[6]

Reagent

Anti-Histone Deacetylase 4 (HDAC4) (DM-15) 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: 1.0 – 1.5 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 hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C. 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

A minimum working dilution of 1:1,000 is determined by immunoblotting using whole extracts of mouse NIH-3T3 cells.

A minimum working dilution of 1:500 is determined by immunoblotting using whole extracts of rat brain

10-20 µg of antibody immunoprecipitates HDAC4 from a RIPA extract of HeLa nuclei from 1 x 10^7 cells.

A minimum working dilution of 1:250 is determined by indirect immunofluorescence using HEK 293T cells expressing recombinant mouse HDAC4.

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

References

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