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ProductInformation

Monoclonal Anti-Histone Deacetylase 8 (HDAC8)
Clone HDAC8-48
Purified Mouse Immunoglobulin

Product Number **H 6412**

Product Description

Monoclonal Anti-Histone Deacetylase 8 (HDAC8) (mouse IgG1 isotype) is derived from the HDAC8-48 hybridoma produced by the fusion of NS-1 mouse myeloma cells and splenocytes from BALB/c mice immunized with recombinant human HDAC8. The isotype is determined using Sigma ImmunoType™ Kit (Sigma ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2).

Monoclonal Anti-Histone Deacetylase 8 (HDAC8) recognizes human HDAC8. The product may be used in various immunochemical techniques including ELISA, and immunoblotting (approx. 43 kDa).

Regulation of gene expression is mediated by several mechanisms such as DNA methylation, ATP-dependent chromatin remodeling, and posttranslational modifications of histones, which 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 reversible acetylation/-deacetylation processes are histone acetyltransferases (HATs) and histone deacetylases (HDACs), respectively.[2] HATs act as transcriptional coactivators, and 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. Class I HDACs are ubiquitously expressed, and 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]

The HDAC8 gene encodes for a 377 amino acid protein with a molecular weight of 43 kDa and is localized within the nucleus. HDAC8 mRNA is expressed in heart, lung, kidney, and pancreas as well as in several cell lines derived from cancer tissues.[8]

Reagent

Monoclonal Anti-Histone Deacetylase 8 (HDAC8) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: Approx. 2.0-2.5 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 extended 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

By immunoblotting, a minimum working antibody concentration of approximately 4 µg/ml is recommended using nuclear extracts of HeLa cells.

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

References

1. Wang, A.H., et al., Mol. Cell. Biol., **19**, 7816-7827 (1999).
2. Grozinger, C.M., et al., Proc. Natl. Acad. Sci. USA, **96**, 4868-4873 (1999).
3. Fischle, W., et al., Biochem. Cell Biol., **79**, 337-348, (2001).
4. Khochbin, S., et al., Curr. Opin. Genet. Dev., **11**, 162-166 (2001).
5. Fischle, W., et al., J. Biol. Chem., **274**, 11713-11720 (1999).
6. Fischle, W., et al., J. Biol. Chem., **276**, 35826-35835 (2001).
7. Dressel, U., J. Biol. Chem., **276**, 17007-17013 (2001).
8. Hu, E., et al., J. Biol. Chem., **275**, 15254-15264 (2000).

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