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ProductInformation

Anti-HDRP/MITR
Developed in Rabbit
Affinity Isolate Antibody

Product Number **H 9163**

Product Description

Anti-HDRP/MITR is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 577-590 of human HDRP/MITR with N-terminal added cysteine, conjugated to KLH. The corresponding sequence is identical in mouse. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-HDRP/MITR recognizes human and mouse HDRP/MITR. Applications include immunoblotting (75 kDa) and immunofluorescence. Additional weak bands may be detected when immunoblotting various extract preparations. Detection of the HDRP/MITR band 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 comprises 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.

HDRP (HDAC Related Protein) also known as MITR (MEF-2 Interacting Transcription Repressor Protein) is a HDAC9 isoform (no.3) containing 421 amino acid residues and shorter than the predominant isoform no.1.[7, 8] HDRP/MITR is highly homologous to the amino extensions of class II HDACs but lacks a carboxy-terminal catalytic domain. HDRP/MITR is expressed in all human tissues. Its expression is especially high in brain, heart, and skeletal muscle. HDRP/MITR interacts directly with HDACs 3, 4, 5, and 7 and indirectly with HDACs 1 and 2. Two regulatory serines in HDRP/MITR are targets for CaMK signaling. Following phosphorylation, HDRP/MITR is released from MEF-2 (Myocyte Enhancer Factor 2) and remains in the nucleus with an altered subnuclear distribution.[9] HDRP/MITR associates together with HDAC4 and HDAC5 and the heterochromatin protein HP1.[10] HDRP/MITR also interacts with the C-terminal binding protein (CtBP) and zinc finger transcription factor Ikaros.[11, 12]

Reagent

Anti-HDRP/MITR 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. 0.5 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 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 0.05-0.1 µg/ml is recommended using a whole extract of COS-7 cells expressing recombinant human HDRP/MITR.

By indirect immunofluorescence, a working antibody concentration of 5-10 µg/ml is recommended using mouse C2 cells.

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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