Monoclonal Anti-Histone Deacetylase 11 (HDAC11)
Clone HDAC11-31
Purified Mouse Immunoglobulin

Product Description
Monoclonal Anti-Histone Deacetylase 11 (HDAC11) (mouse IgG2b isotype) is derived from the HDAC11-31 hybridoma produced by the fusion of mouse myeloma cells (NS1) and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to amino acids 2-16 of human HDAC11, conjugating to KLH. The HDAC11 sequence in mouse and rat differs by three amino acids. The isotype is determined using Sigma ImmunoType® Kit (Product Code ISO-1) and by a double diffusion immunoblot using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Histone Deacetylase 11 (HDAC11) recognizes human HDAC11 (approx. 39 kDa). The antibody epitope resides within amino acids 2-16 of human HDAC11. The antibody may be used in ELISA and immunoblotting.

Histone acetylation is a dynamic process where levels are determined by the net activities of HATs and the competing enzymes histone deacetylases (HDACs). Both activities are associated with the nuclear matrix. Eleven different mammalian HDACs have been described. HDAC1-3 and 8 (Class I) are similar to yeast Rpd3 protein, while HDAC4-7, 9 and 10 (Class II) are similar to yeast Hda1 protein. The activities of the histone deacetylases are often, but not always, associated with transcriptional repression and nucleosome condensation. HDAC1, HDAC2, and several others are the catalytic subunits of different multiprotein regulatory complexes. Other components of such complexes may include corepressors such as mSin3, N-CoR, SMRT, and associated proteins such as SAP18, SAP30, RbAp46, RbAp48, and c-Ski oncogenic protein, a protein involved in DNA methylation. Nucleosome remodeling and deacetylation (NDR) complexes containing HDAC1, HDAC2, Mi-2 (CH3, CH4) dermatomyositis specific autoantigen, and MAT2 (metastasis-associated protein) protein, have been described. It is therefore assumed that ATP-dependent nucleosome remodeling activity and histone deacetylation may be interconnected or interdependent. Recruitment of the multiprotein complexes to promoter sites occurs by many sequence specific DNA-binding proteins such as unliganded nuclear hormone receptors, DP1-E2F, YY1, and Rb family of transcription factors, transcriptional repressors, and tumor suppressors (e.g. BRCA1). Aberrant recruitment of HDACs by certain oncoproteins may occur in certain neoplastic diseases.
HDAC11 is a new member of the HDAC family. The protein does not belong to HDAC class I or II but is related to a common ancestral gene(s) from which the eukaryotic HDACs evolved.\(^{12}\) HDAC11 has a molecular weight of 39 kDa and is mainly expressed in brain, heart, skeletal muscle, kidney, testis, and cancer cells. The protein consists of one catalytic domain and is found in a complex with HDAC6.\(^{12}\)

**Product Profile**
By immunoblotting, a working antibody concentration of 2-4 µg/ml is recommended using HeLa cell extracts.

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

**References**