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HDAC3 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1211a

Specification

HDAC3 Antibody - Product Information

Application	**WB, IF**
Primary Accession	O15379
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG2a**
Calculated MW	**48.8kDa KDa**

Description
HDAC3: histone deacetylase 3, also known as HD3, RPD3, RPD3-2. Entrez Protein NC_000005. Histones play a critical role in transcriptional regulation, cell cycle progression, and developmental events. Histone acetylation/deacetylation alters chromosome structure and affects transcription factor access to DNA. The protein encoded by this gene belongs to the histone deacetylase/acuc/apha family. It has histone deacetylase activity and represses transcription when tethered to a promoter. It may participate in the regulation of transcription through its binding with the zinc-finger transcription factor YY1. This protein can also down-regulate p53 function and thus modulate cell growth and apoptosis. This gene is regarded as a potential tumor suppressor gene.

Immunogen
Purified recombinant fragment of human HDAC3 (aa224-428) expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

HDAC3 Antibody - Additional Information

Gene ID 8841

Other Names
Histone deacetylase 3, HD3, 3.5.1.98, RPD3-2, SMAP45, HDAC3

Dilution
WB~~1/500 - 1/2000
IF~~1/200 - 1/1000

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
HDAC3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

HDAC3 Antibody - Protein Information

Name HDAC3

Function
Histone deacetylase that catalyzes the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4), and some other non-histone substrates (PubMed:23911289, PubMed:21030595, PubMed:21444723, PubMed:25301942, PubMed:28497810, PubMed:28167758, PubMed:32404892). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events (PubMed:23911289). Histone deacetylases act via the formation of large multiprotein complexes (PubMed:23911289). Participates in the BCL6 transcriptional repressor activity by deacetylating the H3 'Lys- 27' (H3K27) on enhancer elements, antagonizing EP300 acetyltransferase activity and repressing proximal gene expression (PubMed:23911289). Acts as a molecular chaperone for shuttling phosphorylated NR2C1 to PML bodies for sumoylation (By similarity). Contributes, together with XBP1 isoform 1, to the activation of NFE2L2-mediated HMOX1 transcription factor gene expression in a PI(3)K/mTORC2/Akt-dependent signaling pathway leading to endothelial cell (EC) survival under disturbed flow/oxidative stress (PubMed:25190803). Regulates both the transcriptional activation and repression phases of the circadian clock in a deacetylase activity-independent manner (By similarity). During the activation phase, promotes the accumulation of ubiquitinated BMAL1 at the E-boxes and during the repression phase, blocks FBXL3-mediated CRY1/2 ubiquitination and promotes the interaction of CRY1 and BMAL1 (By similarity). The NCOR1-HDAC3 complex regulates the circadian expression of the core clock gene BMAL1 and the genes involved in lipid metabolism in the liver (By similarity). Also functions as a deacetylase for non-histone targets, such as KAT5, MEF2D, MAPK14 and RARA (PubMed:21030595, PubMed:21444723, PubMed:25301942, PubMed:28167758). Serves as a corepressor of RARA, mediating its deacetylation and repression, leading to inhibition of RARE DNA element binding (PubMed:28167758). In association with RARA, plays a role in the repression of microRNA-10a and thereby in the inflammatory response (PubMed:28167758). In addition to protein deacetylase activity, also acts as a protein-lysine deacylase by recognizing other acyl groups: catalyzes removal of (2E)-butenoyl (crotonyl) and 2-hydroxyisobutanoyl (2-hydroxyisobutyryl) acyl groups from lysine residues, leading to protein decrotonylation and de-2-hydroxyisobutyrylation, respectively (PubMed:28497810, PubMed:29192674, PubMed:34608293). Catalyzes decrotonylation of MAPRE1/EB1 (PubMed:34608293).

Cellular Location
Nucleus. Cytoplasm. Cytoplasm, cytosol. Note=Colocalizes with XBP1 and AKT1 in the cytoplasm (PubMed:25190803). Predominantly expressed in the nucleus in the presence of CCAR2 (PubMed:21030595)

Tissue Location
Widely expressed.

HDAC3 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HDAC3 Antibody - Images

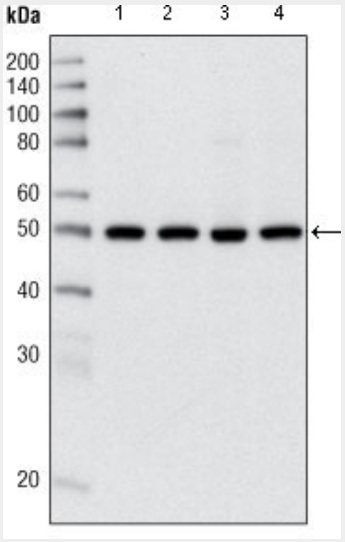


Figure 1: Western blot analysis using HDAC3 mouse mAb against Hela (1), NIH/3T3 (2), C6 (3) and COS (4) cell lysate.

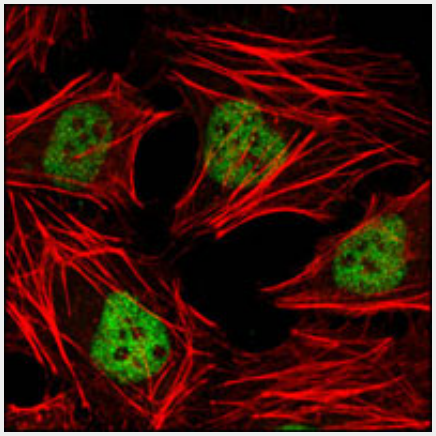


Figure 2: Confocal immunofluorescence analysis of Hela cells using HDAC3 mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin.

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1. Folia Biol (Praha). 2006;52(1-2):21-33. 2. Mol Cell Biol. 2007 Feb;27(4):1280-95. 3. Mol Carcinog. 2008 Feb;47(2):137-47.