

**HDAC3 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1211a****Specification**

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**HDAC3 Antibody - Product Information**

Application	<b>WB, IF</b>
Primary Accession	<a href="#">O15379</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG2a</b>
Calculated MW	<b>48.8kDa KDa</b>

**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:<a href="http://www.uniprot.org/citations/21030595" target="\_blank">21030595</a>, PubMed:<a href="http://www.uniprot.org/citations/21444723" target="\_blank">21444723</a>, PubMed:<a href="http://www.uniprot.org/citations/23911289" target="\_blank">23911289</a>, PubMed:<a href="http://www.uniprot.org/citations/25301942" target="\_blank">25301942</a>, PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>, PubMed:<a href="http://www.uniprot.org/citations/28497810" target="\_blank">28497810</a>, PubMed:<a href="http://www.uniprot.org/citations/32404892" target="\_blank">32404892</a>). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events (PubMed:<a href="http://www.uniprot.org/citations/23911289" target="\_blank">23911289</a>). Histone deacetylases act via the formation of large multiprotein complexes (PubMed:<a href="http://www.uniprot.org/citations/23911289" target="\_blank">23911289</a>). 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:<a href="http://www.uniprot.org/citations/23911289" target="\_blank">23911289</a>). 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:<a href="http://www.uniprot.org/citations/25190803" target="\_blank">25190803</a>). 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, RARA and STAT3 (PubMed:<a href="http://www.uniprot.org/citations/15653507" target="\_blank">15653507</a>, PubMed:<a href="http://www.uniprot.org/citations/21030595" target="\_blank">21030595</a>, PubMed:<a href="http://www.uniprot.org/citations/21444723" target="\_blank">21444723</a>, PubMed:<a href="http://www.uniprot.org/citations/25301942" target="\_blank">25301942</a>, PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>). Serves as a corepressor of RARA, mediating its deacetylation and repression, leading to inhibition of RARE DNA element binding (PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>). In association with RARA, plays a role in the repression of microRNA-10a and thereby in the inflammatory response (PubMed:<a href="http://www.uniprot.org/citations/28167758" target="\_blank">28167758</a>). 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:<a href="http://www.uniprot.org/citations/28497810" target="\_blank">28497810</a>, PubMed:<a href="http://www.uniprot.org/citations/29192674" target="\_blank">29192674</a>, PubMed:<a href="http://www.uniprot.org/citations/34608293" target="\_blank">34608293</a>). Catalyzes decrotonylation of MAPRE1/EB1 (PubMed:<a href="http://www.uniprot.org/citations/34608293" target="\_blank">34608293</a>).

#### 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 Cytometry](#)
- [Cell Culture](#)

### HDAC3 Antibody - Images

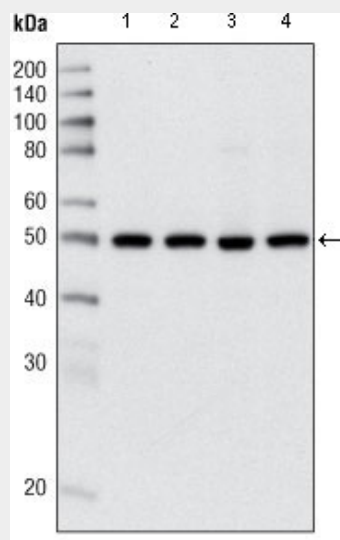


Figure 1: Western blot analysis using HDAC3 mouse mAb against HeLa (1), NIH/3T3 (2), C6 (3) and COS (4) cell lysate.

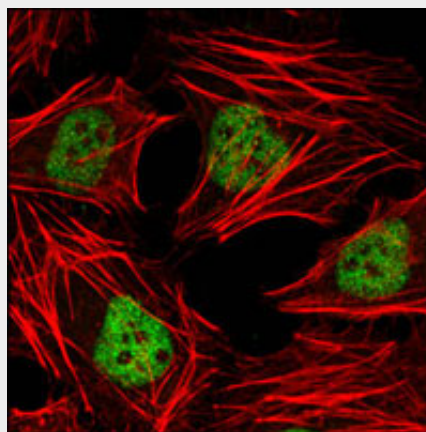


Figure 2: Confocal immunofluorescence analysis of Hela cells using HDAC3 mouse mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin.

#### **HDAC3 Antibody - References**

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.