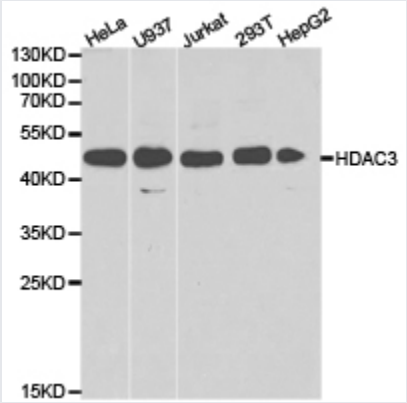
HDAC3 Antibody – Rabbit

PRODUCT OVERVIEW

Product Name	HDAC3, Antibody
Full Product Name	HDAC3 Antibody
Product Gene Name	anti-HDAC3 antibody
Product Synonym Names	HD3; RPD3; RPD3-2
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Purity/Purification	Affinity purification
Preparation and Storage	Store at-20 degree C or-80 degree C. Avoid freeze/thaw cycles.
Molecular Weight	49kDa
OMIM	605166
3D Structure	ModBase 3D Structure for O15379
Immunogen	A synthetic peptide of human HDAC3
Storage Buffer	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Product Categories/Family for anti-HDAC3 antibody	Autophagy antibody; Cancer; Cardiovascular; Cell Biology; Epigenetics & Nuclear Signaling; Developmental Biologys; Immunology; Drug Discovery Products; Metabolism; Neuroscience; Signal Transduction; Stem Cells
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-HDAC3 antibody	Western Blot (WB), Immunohistochemistry (IHC)
Application Notes for anti-HDAC3 antibody	WB: 1:500-1:2000 IHC: 1:50-1:200
Related Product Information for anti-HDAC3 antibody	Acetylation of the histone tail causes chromatin to adopt an "open" conformation, allowing increased accessibility of transcription factors to DNA. The identification of histone acetyltransferases (HATs) and their large multiprotein complexes has yielded important insights into how these enzymes regulate transcription (1, 2). HAT complexes interact with sequence-specific activator proteins to target specific genes. In addition to histones, HATs can acetylate nonhistone proteins, suggesting multiple roles for these enzymes (3). In contrast, histone deacetylation promotes a "closed" chromatin conformation and typically leads to repression of gene activity (4). Mammalian histone deacetylases can be divided into three classes on the basis of their similarity to various yeast deacetylases (5). Class I proteins (HDACs 1, 2, 3, and 8) are related to the yeast Rpd3-like proteins, those in class II (HDACs 4, 5, 6, 7, 9, and 10) are related to yeast Hda1-like proteins, and class III proteins are related to the yeast protein Sir2. Inhibitors of HDAC activity are now being explored as potential therapeutic cancer agents (6, 7). HDAC3 is a nuclear and cytoplasmic protein that deacetylates both histone (H2A, H3, H4) and non-histone substrates (RelA, SRY, p53, MEF2, PCAF and p300/CBP) (8). HDAC3 deacetylase activity is stimulated by interactions with the N-CoR and SMRT co-repressor proteins. Together, these three proteins form a functional complex that represses transcription associated with nuclear hormone receptors and other transcription factors, including Rev-Erb, COUP-TF, DAX1, MAD and Pit-1 (8, 9). Phosphorylation of HDAC3 on Ser424 by casein kinase 2 (CK2) also increases HDAC3 deacetylase activity (9). Subsequently, de-phosphorylation by protein phosphatase 4 (PP4) decreases HDAC3 activity (9).

Product References and Citations for anti-HDAC3 antibody	1. Marmorstein, R. (2001) Cell Mol Life Sci 58, 693-703. 2. Gregory, P.D. et al. (2001) Exp Cell Res 265, 195-202. 3. Liu, Y. et al. (2000) Mol Cell Biol 20, 5540-53. 4. Cress, W.D. and Seto, E. (2000) J Cell Physiol 184, 1-16. 5. Gray, S.G. and Ekström, T.J. (2001) Exp Cell Res 262, 75-83. 6. Thiagalingam, S. et al. (2003) Ann. N.Y. Acad. Sci. 983, 84-100. 7. Vigushin, D.M. and Coombes, R.C. (2004) Curr. Cancer Drug Targets 4, 205-218. 8. Karagianni, P. and Wong, J. (2007) Oncogene 26, 5439-5449. 9. Zhang, X. et al. (2005) Genes Dev. 19, 827-839.
Other Notes	Small volumes of anti-HDAC3 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for HDAC3 purchase	MBS8501487 is an antibody targeting HDAC3. Also known as HDAC3 Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Western Blot (WB) of anti-HDAC3 antibody
Western blot analysis of extracts of various celllines, using HDAC3 antibody.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HDAC3. It may not necessarily be applicable to this product.

NCBI GI #	13128862
NCBI GeneID	8841
NCBI Accession #	NP_003874.2
UniProt Primary Accession #	O15379
UniProt Secondary Accession #	O43268; Q9UEI5; Q9UEV0; D3DQE1
UniProt Related Accession #	O15379
GenBank Nucleotide #	NM_003883.3
NCBI Official Full Name	histone deacetylase 3 isoform 2
NCBI Official Synonym Full Names	histone deacetylase 3
NCBI Official Symbol	HDAC3
NCBI Official Synonym Symbols	HD3; RPD3; RPD3-2
UniProt Protein Name	Histone deacetylase 3
UniProt Synonym Protein Names	RPD3-2; SMAP45
Protein Family	Histone deacetylase
UniProt Gene Name	HDAC3
UniProt Synonym Gene Names	HD3
NCBI Protein Information	histone deacetylase 3

NCBI Summary for HDAC3	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. [provided by RefSeq, Jul 2008]
UniProt Comments for HDAC3	Responsible for 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. Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone deacetylases act via the formation of large multiprotein complexes. 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. Probably participates in the regulation of transcription through its binding to the zinc-finger transcription factor YY1; increases YY1 repression activity. Required to repress transcription of the POU1F1 transcription factor. Acts as a molecular chaperone for shuttling phosphorylated NR2C1 to PML bodies for sumoylation (PubMed:21444723, PubMed:23911289). Contributes, together with XBP1 isoform 1, to the activation of NFE2L2-mediated HMOX1 transcription factor gene expression in a PI3K/mTORC2/Akt-dependent signaling pathway leading to endothelial cell (EC) survival under disturbed flow/oxidative stress (PubMed:25190803).
Research Articles on HDAC3	**1.** the NCOR/HDAC3 complex is a major suppressor of differentiation in rhabdomyosarcoma
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