HDAC3 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	HDAC3, Polyclonal Antibody
Full Product Name	HDAC3 Conjugated Antibody
Product Gene Name	anti-HDAC3 antibody
Product Synonym Names	HD3; RPD3; RPD3-2
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	0.01M Sodium Phosphate, 0.25M NaCl, pH 7.6, 5mg/ml Bovine Serum Albumin, 0.02% Sodium Azide
Specificity	The antibody detects endogenous level of total HDAC3 protein.
Preparation and Storage	Store at 4 degree C for 6 months.
Molecular Weight	48,848 Da
Chromosome Location	Chromosome: 5; NC_000005.9 (141000443..141016423, complement). Location: 5q31
OMIM	605166
3D Structure	ModBase 3D Structure for O15379
Immunogen	A synthetic peptide of human HDAC3.
Conjugation	Biotin AF350 AF405 AF488 AF555 AF594 AF647 AF680 AF750
Excitation Emission	AF350: 346nm/442nm
Applications Tested/Suitable for anti-HDAC3 antibody	Most Applications
Application Notes for anti-HDAC3 antibody	Suggested Dilution: AF350 conjugated: most applications: 1:50-1:250 AF405 conjugated: most applications: 1:50-1:250 AF488 conjugated: most applications: 1:50-1:250 AF555 conjugated: most applications: 1:50-1:250 AF594 conjugated: most applications: 1:50-1:250 AF647 conjugated: most applications: 1:50-1:250 AF680 conjugated: most applications: 1:50-1:250 AF750 conjugated: most applications: 1:50-1:250 Biotin conjugated: working with enzyme-conjugated streptavidin, most applications: 1:50-1:1000
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).

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	MBS9443728 is an antibody targeting HDAC3. Also known as HDAC3 Conjugated Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.

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
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
UniProt Entry Name	HDAC3_HUMAN
NCBI Protein Information	histone deacetylase 3; SMAP45
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	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. 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. Interacts with HDAC7 and HDAC9. Forms a heterologous complex at least with YY1. Interacts with DAXX, HDAC10 and DACH1. Found in a complex with NCOR1 and NCOR2. Component of the N-Cor repressor complex, at least composed of NCOR1, NCOR2, HDAC3, TBL1X, TBL1R, CORO2A and GPS2. Interacts with BCOR, MJD2A/JHDM3A, NRIP1, PRDM6 and SRY. Interacts with BTBD14B. Interacts with GLIS2. Interacts (via the DNA-binding domain) with NR2C1; the interaction recruits phosphorylated NR2C1 to PML bodies for sumoylation. Component of the Notch corepressor complex. Interacts with CBFA2T3 and NKAP. Interacts with APEX1; the interaction is not dependent on the acetylated status of APEX1. Interacts with and deacetylates MAPK14. Interacts with ZMYND15. Widely expressed. Belongs to the histone deacetylase family. HD type 1 subfamily. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Cell cycle regulation; Apoptosis; Nuclear receptor co-regulator; Transcription, coactivator/corepressor; Deacetylase; EC 3.5.1.98 Chromosomal Location of Human Ortholog: 5q31 Cellular Component: nucleoplasm; Golgi apparatus; transcriptional repressor complex; spindle microtubule; cytoplasm; histone deacetylase complex; plasma membrane; nucleus Molecular Function: protein binding; cyclin binding; NAD-dependent histone deacetylase activity (H3-K9 specific); enzyme binding; NAD-dependent histone deacetylase activity (H3-K14 specific); chromatin DNA binding; histone deacetylase binding; protein deacetylase activity; NAD-dependent histone deacetylase activity (H4-K16 specific); chromatin binding; histone deacetylase activity; transcription factor binding; transcription corepressor activity Biological Process: circadian rhythm; negative regulation of JNK cascade; establishment and/or maintenance of chromatin architecture; Notch signaling pathway; transcription, DNA-dependent; nerve growth factor receptor signaling pathway; regulation of mitotic cell cycle; regulation of multicellular organism growth; regulation of protein stability; chromatin modification; spindle assembly; cellular lipid metabolic process; negative regulation of transcription from RNA polymerase II promoter; negative regulation of cell cycle; protein amino acid deacetylation; positive regulation of transcription factor import into nucleus; positive regulation of transcription from RNA polymerase II promoter; positive regulation of protein amino acid phosphorylation; circadian regulation of gene expression; negative regulation of transcription, DNA-dependent; positive regulation of TOR signaling pathway; negative regulation of apoptosis
Research Articles on HDAC3	**1.** Histone deacetylase 3 inhibits expression of PUMA in gastric cancer cells; patients with low PUMA expression have significant decreases in overall survival.
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