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Anti-HDAC3 Antibody

Catalog # ABO10914

Product Information

Application	WB, IHC-P, IHC-F, ICC
Primary Accession	O15379
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Histone deacetylase 3(HDAC3) detection. Tested with WB, IHC-P, IHC-F, ICC in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	8841
Other Names	Histone deacetylase 3, HD3, 3.5.1.98, RPD3-2, SMAP45, HDAC3
Calculated MW	48848
Application Details	Immunocytochemistry , 0.5-1 □g/ml, Human, Mouse, Rat Immunohistochemistry(Frozen Section), 0.5-1 □g/ml, Rat, Human, Mouse Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Nucleus . Cytoplasm . Cytoplasm, cytosol . Colocalizes with XBP1 and AKT1 in the cytoplasm (PubMed:25190803). Predominantly expressed in the nucleus in the presence of CCAR2. .
Tissue Specificity	Widely expressed.
Source	Eukaryota
Protein Name	Histone deacetylase 3(HD3)
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human HDAC3(411-428aa NEFYDGDHDNDKESDVEI), identical to the related rat and mouse sequences.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the histone deacetylase family. HD type 1 subfamily.

Protein Information

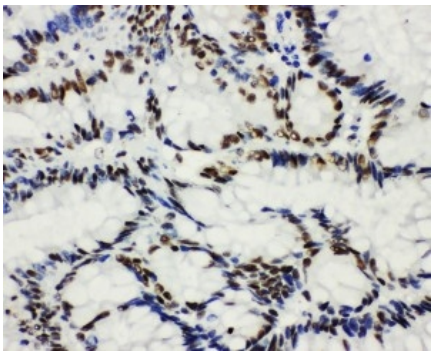
Name	HDAC3
Function	Histone deacetylase that catalyzes the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4), and some other non-histone substrates (PubMed:21030595, PubMed:21444723, PubMed:23911289, PubMed:25301942, PubMed:28167758, PubMed:28497810, PubMed:32404892, PubMed:22230954). 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, such as N-Cor repressor complex, which activate the histone deacetylase activity (PubMed:23911289, PubMed:22230954). 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, RARA and STAT3 (PubMed:15653507, 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), lactoyl (lactyl), 2-hydroxyisobutanoyl (2-hydroxyisobutyryl) and isonicotinyl acyl groups from lysine residues, leading to protein decrotonylation, delactylation, de-2- hydroxyisobutyrylation and deisonicotinylation, respectively (PubMed:28497810, PubMed:29192674, PubMed:34608293, PubMed:34545082, PubMed:35044827). Catalyzes decrotonylation of MAPRE1/EB1 (PubMed:34608293). Mediates delactylation NBN/NBS1, thereby inhibiting DNA double-strand breaks (DSBs) via homologous recombination (HR) (PubMed:38961290).
Cellular Location	Nucleus. Chromosome. 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..

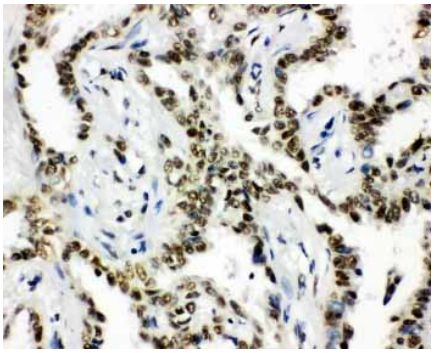
Background

HDAC3(HISTONE DEACETYLASE 3) is a member of the histone deacetylase/acuc/apha family of proteins that is an enzyme that in humans is encoded by the HDAC3 gene. The HDAC3 gene is mapped to 5q31.3. HDAC3 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. The protein can also down-regulate p53 function and thus modulate cell growth and apoptosis. And this gene is regarded as a potential tumor suppressor gene. HDAC3 has an open reading frame of 428 amino acids and shares 53% amino acid identity with HDAC1 and 52% with HDAC2. The catalytic domain of HDAC4 interacts with HDAC3 via the transcriptional corepressor NCOR2. All experimental conditions leading to the suppression of HDAC4 binding to NCOR2 and to HDAC3 resulted in loss of enzymatic activity associated with HDAC4. HDAC3 recruitment to the genome displays a circadian rhythm in mouse liver.

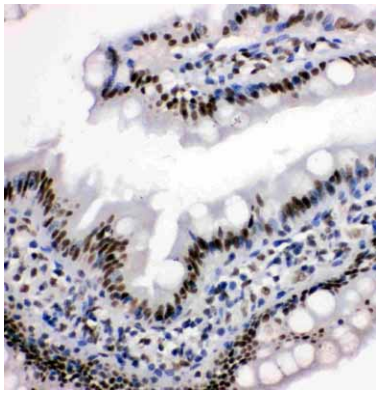
Images



Anti-HDAC3 antibody, ABO10914, IHC(P)IHC(P): Human Intestinal Cancer Tissue

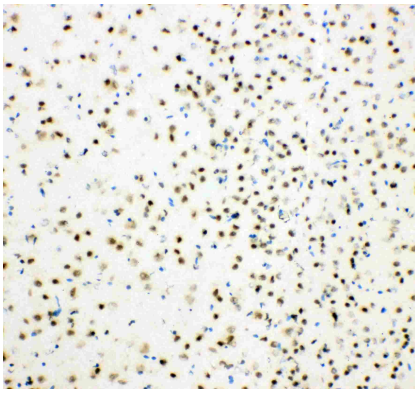


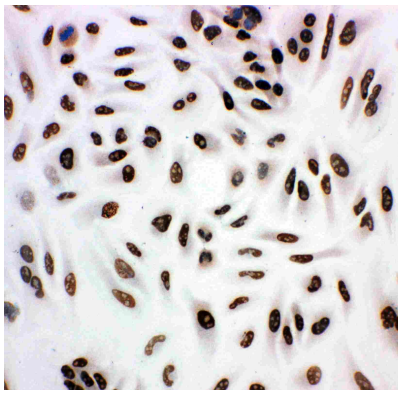
Anti-HDAC3 antibody, ABO10914, IHC(P)IHC(P): Human Lung Cancer Tissue



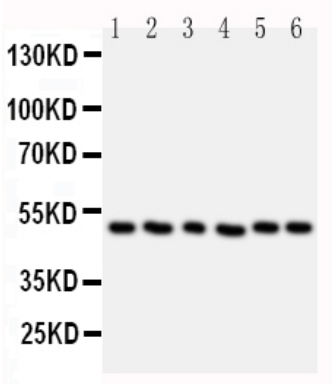
Anti-HDAC3 antibody, ABO10914, IHC(P)IHC(P): Rat Intestine Tissue

Anti-HDAC3 antibody, ABO10914, IHC(F)IHC(F): Mouse Brain Tissue





Anti-HDAC3 antibody, ABO10914, ICCICC: A549 Cell



Anti-HDAC3 antibody, ABO10914, Western blottingLane 1: Rat Stomach Tissue LysateLane 2: Rat Testis Tissue LysateLane 3: MCF-7 Cell LysateLane 4: HELA Cell LysateLane 5: JURKAT Cell LysateLane 6: SKOV Cell Lysate

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.