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HDAC1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1101b

Product Information

Application	IF, WB, E
Primary Accession	Q13547
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	55103
Antigen Region	1-30

Additional Information

Gene ID	3065
Other Names	Histone deacetylase 1, HD1, HDAC1, RPD3L1
Target/Specificity	This HDAC1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human HDAC1.
Dilution	IF~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HDAC1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HDAC1 {ECO:0000303|PubMed:10846170, ECO:0000312|HGNC:HGNC:4852}
Function	Histone deacetylase that catalyzes the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4) (PubMed:16762839, PubMed:17704056, PubMed:28497810). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental

	events (PubMed:16762839, PubMed:17704056). Histone deacetylases act via the formation of large multiprotein complexes (PubMed:16762839, PubMed:17704056). Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin (PubMed:16428440, PubMed:28977666). As part of the SIN3B complex is recruited downstream of the constitutively active genes transcriptional start sites through interaction with histones and mitigates histone acetylation and RNA polymerase II progression within transcribed regions contributing to the regulation of transcription (PubMed:21041482). Also functions as a deacetylase for non-histone targets, such as NR1D2, RELA, SP1, SP3, STAT3, ZNF76 and TSHZ3 (PubMed:12837748, PubMed:16285960, PubMed:16337145, PubMed:16478997, PubMed:17996965, PubMed:19343227). Deacetylates SP proteins, SP1 and SP3, and regulates their function (PubMed:12837748, PubMed:16478997). Component of the BRG1-RB1-HDAC1 complex, which negatively regulates the CREST-mediated transcription in resting neurons (PubMed:19081374). Upon calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation (PubMed:19081374). Deacetylates TSHZ3 and regulates its transcriptional repressor activity (PubMed:19343227). Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B (PubMed:17000776). Deacetylates NR1D2 and abrogates the effect of KAT5-mediated relieving of NR1D2 transcription repression activity (PubMed:17996965). Component of a RCOR/GFI/KDM1A/HDAC complex that suppresses, via histone deacetylase (HDAC) recruitment, a number of genes implicated in multilineage blood cell development (By similarity). Involved in CIART-mediated transcriptional repression of the circadian transcriptional activator: CLOCK-BMAL1 heterodimer (By similarity). Required for the transcriptional repression of circadian target genes, such as PER1, mediated by the large PER complex or CRY1 through histone deacetylation (By similarity). In addition to protein deacetylase activity, also has protein-lysine deacylase activity: acts as a protein decrotonylase and delactylase by mediating decrotonylation ((2E)-butenoyl) and delactylation (lactoyl) of histones, respectively (PubMed:28497810, PubMed:35044827).
Cellular Location	Nucleus
Tissue Location	Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain

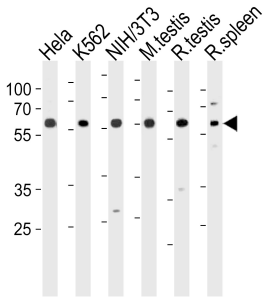
Background

Histone acetylation and deacetylation, catalyzed by multisubunit complexes, play a key role in the regulation of eukaryotic gene expression. HDAC1 belongs to the histone deacetylase/acuc/apha family and is a component of the histone deacetylase complex. It also interacts with retinoblastoma tumor-suppressor protein and this complex is a key element in the control of cell proliferation and differentiation. Together with metastasis-associated protein-2, it deacetylates p53 and modulates its effect on cell growth and apoptosis.

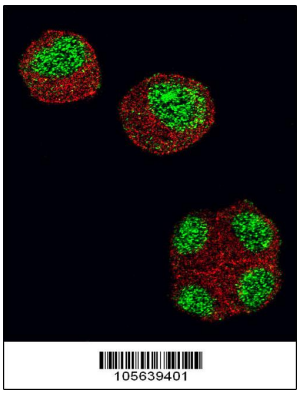
References

Meinke PT and Liberator P. Curr Med Chem, 8(2): 211- 235 (2001).
Nakayama T and Takami Y. J Biochem (Tokyo) 129 (4): 491-499 (2001).
Cress, W.D. and Seto, E. J. Cell. Physiol. 184, 1-16 (2000).

Images



HDAC1 Antibody (M1) (Cat. #AP1101b) western blot analysis in Hela,K562,mouse NIH/3T3 cell line and mouse testis,rat testis and spleen tissue lysates (35ug/lane).This demonstrates the HDAC1 antibody detected the HDAC1 protein (arrow).



Confocal immunofluorescent analysis of HDAC1 Antibody (N-term)(Cat#AP1101b) with 293 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).

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