10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# HDAC1 Antibody(C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5103

## Product Information

| | |
|---|---|
| **Application** | WB |
| **Primary Accession** | Q13547 |
| **Other Accession** | Q4QQW4, O09106, Q32PJ8, NP_004955.2 |
| **Reactivity** | Rat, Human |
| **Predicted** | Mouse, Bovine |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 55103 |
| **Isotype** | Rabbit IgG |
| **Antigen Source** | HUMAN |

## Additional Information

| | |
|---|---|
| **Gene ID** | 3065 |
| **Antigen Region** | 421-450 |
| **Other Names** | HDAC1; RPD3L1; Histone deacetylase 1 |
| **Dilution** | WB~~1:1000 |
| **Target/Specificity** | This HDAC1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 421-450 amino acids from the C-terminal region of human HDAC1. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **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(C-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 and TSHZ3 (PubMed:12837748, PubMed:16285960, 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 |

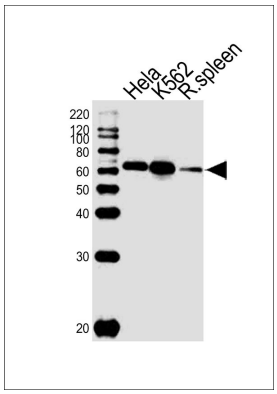
## Background

Histone acetylation and deacetylation, catalyzed by multisubunit complexes, play a key role in the regulation of eukaryotic gene expression. The protein encoded by this gene 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


Yang, Z., et al. Clin. Chem. Lab. Med. 48(12):1785-1791(2010)
Grausenburger, R., et al. J. Immunol. 185(6):3489-3497(2010)
Miller, K.M., et al. Nat. Struct. Mol. Biol. 17(9):1144-1151(2010)
Brandt, S., et al. Int. J. Biochem. Cell Biol. 42(9):1472-1481(2010)
Leone, V., et al. Oncogene 29(30):4341-4351(2010)

## Images




Western blot analysis of lysates from Hela,K562 cell line,rat spleen tissue lysate (from left to right), using HDAC1 Antibody (C-term)(Cat. #AW5103). AW5103 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.