

# HDAC1 mouse Monoclonal Antibody(4E1)

Catalog # AP63736

## Product Information

Application	IHC-P, IF
Primary Accession	<a href="#">Q13547</a>
Reactivity	Human, Rat, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	55103

## Additional Information

Gene ID	3065
Other Names	HDAC1
Dilution	IHC-P~~N/A IF~~IF: 1:50-200 IHC 1:100-200
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20°C

## 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

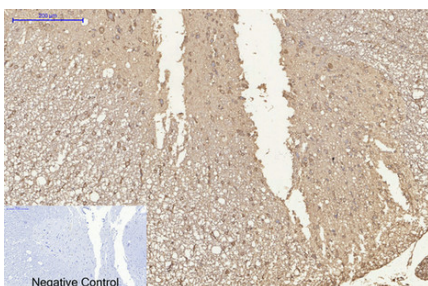
#### Tissue Location

Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain

## Background

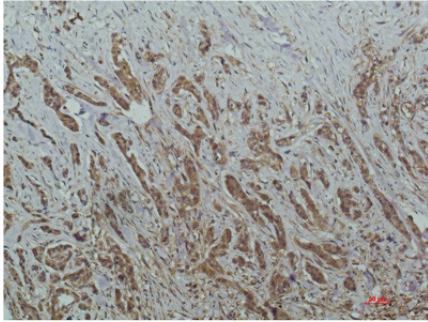
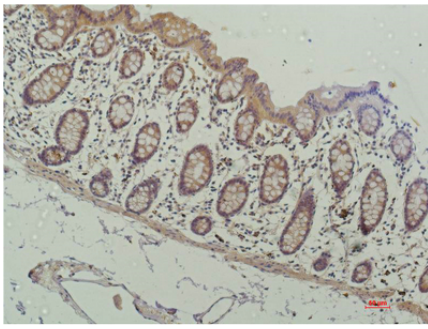
Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone deacetylases act via the formation of large multiprotein complexes. Deacetylates SP proteins, SP1 and SP3, and regulates their function. Component of the BRG1-RB1-HDAC1 complex, which negatively regulates the CREST- mediated transcription in resting neurons. Upon calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation. Deacetylates TSHZ3 and regulates its transcriptional repressor activity. Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B. Deacetylates NR1D2 and abrogates the effect of KAT5-mediated relieving of NR1D2 transcription repression activity. 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. Involved in CIART-mediated transcriptional repression of the circadian transcriptional activator: CLOCK-ARNTL/BMAL1 heterodimer. Required for the transcriptional repression of circadian target genes, such as PER1, mediated by the large PER complex or CRY1 through histone deacetylation.

## Images



Immunohistochemical analysis of paraffin-embedded Rat-spinal-cord tissue. 1,HDAC1 Mouse Monoclonal Antibody(4E1) was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.

Immunohistochemical analysis of paraffin-embedded Human Colon Carcinoma Tissue using HADC1 Mouse mAb diluted at 1:200.



Immunohistochemical analysis of paraffin-embedded Human Breast Carcinoma Tissue using HADC1 Mouse mAb diluted at 1:200.

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