

**Anti-HDAC1 (RABBIT) Antibody**  
**HDAC1 (C-terminus) Antibody**  
**Catalog # ASR5312****Specification**

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**Anti-HDAC1 (RABBIT) Antibody - Product Information**

Host	Rabbit
Conjugate	Unconjugated
Target Species	Human
Reactivity	Human
Clonality	Polyclonal
Application	WB, IHC, E, I, LCI
Application Note	Anti-HDAC-1 Antibody has been tested for use in ELISA, immunohistochemistry, immunofluorescence, and western blot. Specific conditions for reactivity should be optimized by the end user. Specific nuclear staining is observed by IHC. Expect bands at 65 kDa in size corresponding to HDAC-1 by western blotting in the appropriate cell lysate or extract.
Physical State	Liquid (sterile filtered)
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	Anti-HDAC-1 antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a C-Terminal region near amino acids 450-482 of Human HDAC-1.
Preservative	0.01% (w/v) Sodium Azide

**Anti-HDAC1 (RABBIT) Antibody - Additional Information****Gene ID** 3065**Other Names**  
3065**Purity**

Anti-HDAC-1 antibody is directed against human HDAC-1 protein. HDAC-1 antibody was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest reactivity with this protein from human, mouse, rat and chimpanzee sources based on 100% homology for the immunogen sequence. Cross reactivity may occur with HDAC-1 from bovine (82% homology) and chicken (80% homology) sources. Cross reactivity with HDAC-1 homologues from other sources has not been determined.

**Storage Condition**

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

### Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-HDAC1 (RABBIT) Antibody - 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:<a href="http://www.uniprot.org/citations/16762839" target="\_blank">16762839</a>, PubMed:<a href="http://www.uniprot.org/citations/17704056" target="\_blank">17704056</a>, PubMed:<a href="http://www.uniprot.org/citations/28497810" target="\_blank">28497810</a>). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events (PubMed:<a href="http://www.uniprot.org/citations/16762839" target="\_blank">16762839</a>, PubMed:<a href="http://www.uniprot.org/citations/17704056" target="\_blank">17704056</a>). Histone deacetylases act via the formation of large multiprotein complexes (PubMed:<a href="http://www.uniprot.org/citations/16762839" target="\_blank">16762839</a>, PubMed:<a href="http://www.uniprot.org/citations/17704056" target="\_blank">17704056</a>). Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin (PubMed:<a href="http://www.uniprot.org/citations/16428440" target="\_blank">16428440</a>, PubMed:<a href="http://www.uniprot.org/citations/28977666" target="\_blank">28977666</a>). 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:<a href="http://www.uniprot.org/citations/21041482" target="\_blank">21041482</a>). Also functions as a deacetylase for non-histone targets, such as NR1D2, RELA, SP1, SP3, STAT3 and TSHZ3 (PubMed:<a href="http://www.uniprot.org/citations/12837748" target="\_blank">12837748</a>, PubMed:<a href="http://www.uniprot.org/citations/16285960" target="\_blank">16285960</a>, PubMed:<a href="http://www.uniprot.org/citations/16478997" target="\_blank">16478997</a>, PubMed:<a href="http://www.uniprot.org/citations/17996965" target="\_blank">17996965</a>, PubMed:<a href="http://www.uniprot.org/citations/19343227" target="\_blank">19343227</a>). Deacetylates SP proteins, SP1 and SP3, and regulates their function (PubMed:<a href="http://www.uniprot.org/citations/12837748" target="\_blank">12837748</a>, PubMed:<a href="http://www.uniprot.org/citations/16478997" target="\_blank">16478997</a>). Component of the BRG1-RB1-HDAC1 complex, which negatively regulates the CREST-mediated transcription in resting neurons (PubMed:<a href="http://www.uniprot.org/citations/19081374" target="\_blank">19081374</a>). Upon calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation (PubMed:<a href="http://www.uniprot.org/citations/19081374" target="\_blank">19081374</a>). Deacetylates TSHZ3 and regulates its transcriptional repressor activity (PubMed:<a href="http://www.uniprot.org/citations/19343227" target="\_blank">19343227</a>). Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B (PubMed:<a href="http://www.uniprot.org/citations/17000776" target="\_blank">17000776</a>). Deacetylates NR1D2 and abrogates the effect of KAT5- mediated relieving of NR1D2 transcription repression activity (PubMed:<a href="http://www.uniprot.org/citations/17996965" target="\_blank">17996965</a>). 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:<a href="http://www.uniprot.org/citations/28497810" target="\_blank">28497810</a>, PubMed:<a href="http://www.uniprot.org/citations/35044827" target="\_blank">35044827</a>).

#### Cellular Location

Nucleus

#### Tissue Location

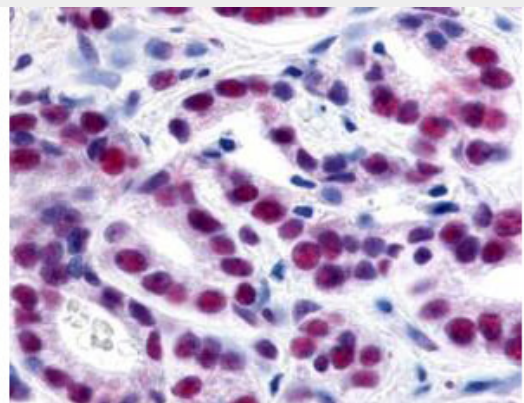
Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain

### Anti-HDAC1 (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-HDAC1 (RABBIT) Antibody - Images



Immunohistochemistry of Rabbit Anti-HDAC-1 Antibody. Tissue: human prostate cancer tissue. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: HDAC-1 antibody at 1:500 for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: HDAC-1 is nuclear. Staining: HDAC-1 precipitated purple with blue counterstain. Personal Communication, Alan Yen, LifeSpanBiosciences, Seattle, WA.

### Anti-HDAC1 (RABBIT) Antibody - Background

HDAC-1 antibody recognizes HDAC1 (also known as HD1, histone deacetylase 1, RPD3, RPD3L1) which belongs to the histone deacetylase/acuc/apha family and is a component of the histone

deacetylase complex. Histone acetylation and deacetylation, catalyzed by multisubunit complexes, play a key role in the regulation of eukaryotic gene expression. 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.