

KD-Validated Anti-Histone deacetylase 1 Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI1478**Specification****KD-Validated Anti-Histone deacetylase 1 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC
Primary Accession	Q13547
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 55 kDa, observed, 55 kDa
Gene Name	HDAC1
Aliases	HDAC1; Histone Deacetylase; HD1; GON-10; RPD3L1; KDAC1; Protein Decrotonylase HDAC1; Protein Deacetylase HDAC1; EC 3.5.1.98; Reduced Potassium Dependency, Yeast Homolog-Like 1; EC 3.5.1.; RPD3
Immunogen	A synthesized peptide derived from human HDAC1

KD-Validated Anti-Histone deacetylase 1 Rabbit Monoclonal Antibody - Additional Information

Gene ID	3065
Other Names	
Histone deacetylase 1, HD1, 3.5.1.98, Protein deacetylase HDAC1, 3.5.1.-, Protein deacetylase HDAC1, 3.5.1.-, HDAC1 {ECO:0000303 PubMed:10846170, ECO:0000312 HGNC:HGNC:4852}	

KD-Validated Anti-Histone deacetylase 1 Rabbit Monoclonal 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:[16762839](http://www.uniprot.org/citations/16762839), PubMed:[17704056](http://www.uniprot.org/citations/17704056), PubMed:[28497810](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/16762839), PubMed:[17704056](http://www.uniprot.org/citations/17704056)). Histone deacetylases act via the formation of large multiprotein complexes (PubMed:[16762839](http://www.uniprot.org/citations/16762839), PubMed:[17704056](http://www.uniprot.org/citations/17704056)).

[17704056](http://www.uniprot.org/citations/17704056)). Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin (PubMed: [16428440](http://www.uniprot.org/citations/16428440), PubMed: [28977666](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/21041482)). Also functions as a deacetylase for non-histone targets, such as NR1D2, RELA, SP1, SP3, STAT3 and TSHZ3 (PubMed: [12837748](http://www.uniprot.org/citations/12837748), PubMed: [16285960](http://www.uniprot.org/citations/16285960), PubMed: [16478997](http://www.uniprot.org/citations/16478997), PubMed: [17996965](http://www.uniprot.org/citations/17996965), PubMed: [19343227](http://www.uniprot.org/citations/19343227)). Deacetylates SP proteins, SP1 and SP3, and regulates their function (PubMed: [12837748](http://www.uniprot.org/citations/12837748), PubMed: [16478997](http://www.uniprot.org/citations/16478997), PubMed: [19081374](http://www.uniprot.org/citations/19081374)). Upon calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation (PubMed: [19081374](http://www.uniprot.org/citations/19081374)). Deacetylates TSHZ3 and regulates its transcriptional repressor activity (PubMed: [19343227](http://www.uniprot.org/citations/19343227)). Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B (PubMed: [17000776](http://www.uniprot.org/citations/17000776)). Deacetylates NR1D2 and abrogates the effect of KAT5- mediated relieving of NR1D2 transcription repression activity (PubMed: [17996965](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/28497810), PubMed: [35044827](http://www.uniprot.org/citations/35044827)).

Cellular Location

Nucleus

Tissue Location

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

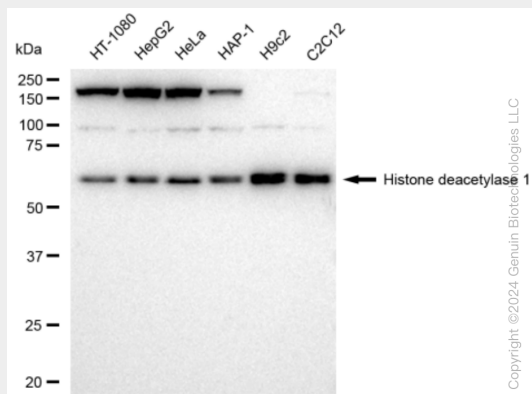
KD-Validated Anti-Histone deacetylase 1 Rabbit Monoclonal Antibody - Protocols

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

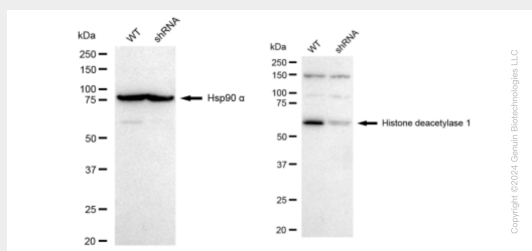
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

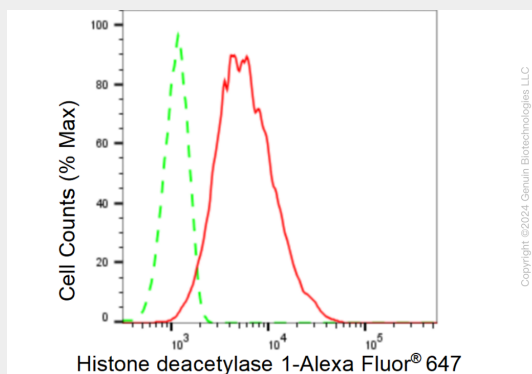
KD-Validated Anti-Histone deacetylase 1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-Histone deacetylase 1 antibody (Cat#AGI1478). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Histone deacetylase 1 antibody (Cat#AGI1478, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-Histone deacetylase 1 antibody (Cat#AGI1478). Histone deacetylase 1 expression in wild type (WT) and Histone deacetylase 1 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-Histone deacetylase 1 antibody (Cat#AGI1478, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of Histone deacetylase 1 expression in C2C12 cells using Histone deacetylase 1 antibody (AGI1478, 1:2,000). Green, isotype control; red, Histone deacetylase 1.