

**Anti-Histone Deacetylase 1 (pS421) Antibody**  
**Rabbit polyclonal antibody to Histone Deacetylase 1 (pS421)**  
**Catalog # AP59578**

**Specification**

---

**Anti-Histone Deacetylase 1 (pS421) Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">O13547</a>
Other Accession	<a href="#">O09106</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55103

**Anti-Histone Deacetylase 1 (pS421) Antibody - Additional Information**

**Gene ID** 3065

**Other Names**

RPD3L1; Histone deacetylase 1; HD1

**Target/Specificity**

Recognizes endogenous levels of Histone Deacetylase 1 (pS421) protein.

**Dilution**

WB~~WB (1/500 - 1/1000)

**Format**

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

**Storage**

Store at -20 °C. Stable for 12 months from date of receipt

**Anti-Histone Deacetylase 1 (pS421) 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:<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

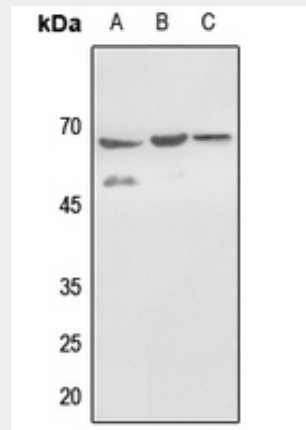
### Anti-Histone Deacetylase 1 (pS421) Antibody - Protocols

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-Histone Deacetylase 1 (pS421) Antibody - Images



Western blot analysis of Histone Deacetylase 1 (pS421) expression in mouse heart (A), rat heart (B), rat testis (C) whole cell lysates.

### Anti-Histone Deacetylase 1 (pS421) Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human Histone Deacetylase 1. The exact sequence is proprietary.

### Anti-Histone Deacetylase 1 (pS421) Antibody - Citations

- [ATP5O Hypo-crotonylation Caused by HDAC2 Hyper-Phosphorylation Is a Primary Detrimental Factor for Downregulated Phospholipid Metabolism under Chronic Stress](#)