

HDAC1 Antibody (S421) Blocking Peptide
Synthetic peptide
Catalog # BP1101d**Specification**

HDAC1 Antibody (S421) Blocking Peptide - Product InformationPrimary Accession [Q13547](#)**HDAC1 Antibody (S421) Blocking Peptide - Additional Information****Gene ID** 3065**Other Names**

Histone deacetylase 1, HD1, HDAC1, RPD3L1

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP1101d](/products/AP1101d) was selected from the S421 region of human HDAC1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

HDAC1 Antibody (S421) Blocking Peptide - 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)). 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

HDAC1 Antibody (S421) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

HDAC1 Antibody (S421) Blocking Peptide - Images

HDAC1 Antibody (S421) Blocking Peptide - Background

Histone acetylation and deacetylation, catalyzed by multisubunit complexes, play a key role in the regulation of eukaryotic gene expression. HDAC1 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.

HDAC1 Antibody (S421) Blocking Peptide - References

Meinke PT and Liberator P. Curr Med Chem, 8(2): 211- 235 (2001). Nakayama T and Takami Y. J Biochem (Tokyo) 129 (4): 491-499 (2001). Cress, W.D. and Seto, E. J. Cell. Physiol. 184, 1-16 (2000).