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# HDAC2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9762c

## Product Information

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|---|---|
| **Application** | IHC-P, FC, IF, WB, E |
| **Primary Accession** | Q92769 |
| **Other Accession** | P70288, P56519 |
| **Reactivity** | Human, Mouse |
| **Predicted** | Chicken, Mouse, Rat, Bovine, Canine, Rabbit |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Calculated MW** | 55364 |
| **Antigen Region** | 410-439 |

## Additional Information

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| **Gene ID** | 3066 |
| **Other Names** | Histone deacetylase 2, HD2, HDAC2 |
| **Target/Specificity** | This HDAC2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 410-439 amino acids from the Central region of human HDAC2. |
| **Dilution** | IHC-P~~1:100~500 FC~~1:10~50 IF~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | HDAC2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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|---|---|
| **Name** | HDAC2 {ECO:0000303\|PubMed:10545197, ECO:0000312\|HGNC:HGNC:4853} |
| **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:28497810). Histone deacetylation gives a tag for epigenetic |

repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events (By similarity). Histone deacetylases act via the formation of large multiprotein complexes (By similarity). Forms transcriptional repressor complexes by associating with MAD, SIN3, YY1 and N-COR (PubMed:12724404). 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). Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin (PubMed:16428440, PubMed:28977666). Component of the SIN3B complex that represses transcription and counteracts the histone acetyltransferase activity of EP300 through the recognition H3K27ac marks by PHF12 and the activity of the histone deacetylase HDAC2 (PubMed:37137925). Also deacetylates non-histone targets: deacetylates TSHZ3, thereby regulating its transcriptional repressor activity (PubMed:19343227). May be involved in the transcriptional repression of circadian target genes, such as PER1, mediated by CRY1 through histone deacetylation (By similarity). Involved in MTA1-mediated transcriptional corepression of TFF1 and CDKN1A (PubMed:21965678). In addition to protein deacetylase activity, also acts as a protein-lysine deacylase by recognizing other acyl groups: catalyzes removal of (2E)-butenoyl (crotonyl), lactoyl (lactyl) and 2-hydroxyisobutanoyl (2-hydroxyisobutyryl) acyl groups from lysine residues, leading to protein decrotonylation, delactylation and de-2-hydroxyisobutyrylation, respectively (PubMed:28497810, PubMed:29192674, PubMed:35044827).

**Cellular Location** Nucleus. Cytoplasm

**Tissue Location** Widely expressed; lower levels in brain and lung.

## Background

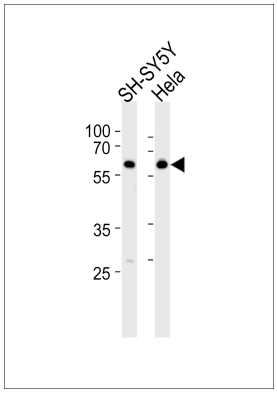
This gene product belongs to the histone deacetylase family. Histone deacetylases act via the formation of large multiprotein complexes, and are responsible for the deacetylation of lysine residues at the N-terminal regions of core histones (H2A, H2B, H3 and H4). This protein forms transcriptional repressor complexes by associating with many different proteins, including YY1, a mammalian zinc-finger transcription factor. Thus, it plays an important role in transcriptional regulation, cell cycle progression and developmental events.

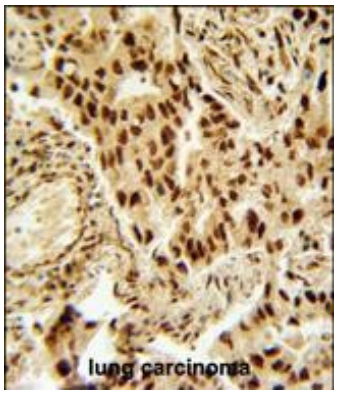
## References

Ishikawa, F., et al. Oncogene 29(6):909-919(2010)
Bush, E.W., et al. Circ. Res. 106(2):272-284(2010)
Krishnan, M., et al. Oncogene 29(2):305-312(2010)
Lehmann, A., et al. BMC Cancer 9, 395 (2009)
Hassig, C.A., et al. Proc. Natl. Acad. Sci. U.S.A. 95(7):3519-3524(1998)

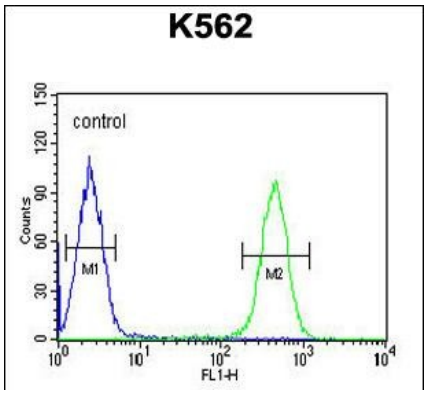
## Images

HDAC2 Antibody (Center) (Cat. #AP9762c) western blot analysis in SH-SY5Y cell line lysates (35ug/lane).This demonstrates the HDAC2 antibody detected the HDAC2 protein (arrow).

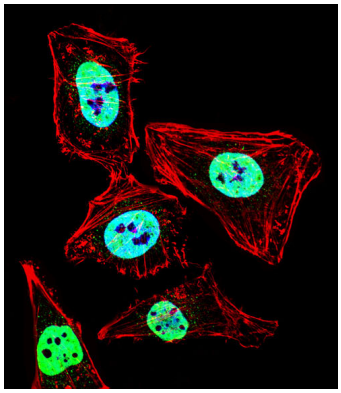



HDAC2 Antibody (Center) (Cat. #AP9762c) immunohistochemistry analysis in formalin fixed and paraffin embedded human lung carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the HDAC2 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.




HDAC2 Antibody (Center) (Cat. #AP9762c) flow cytometric analysis of K562 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Fluorescent confocal image of Hela cell stained with HDAC2 Antibody (Center)(Cat#AP9762c).Hela cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with HDAC2 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min). HDAC2 immunoreactivity is localized to Nucleus significantly.

## Citations

- Endothelial-Specific Overexpression of Histone Deacetylase 2 Protects Mice against Endothelial Dysfunction and Atherosclerosis
- Cystathionine gamma lyase protects vascular endothelium: a role for inhibition of Histone Deacetylase 6.

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