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HDAC2 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5261

Product Information

Application	IF, FC, IHC-P, WB
Primary Accession	Q92769
Other Accession	P70288, P56519
Reactivity	Mouse, Rat, Human
Predicted	Mouse, Chicken
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55364
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	3066
Antigen Region	410-439
Other Names	HDAC2; Histone deacetylase 2
Dilution	IF~~1:10~50 FC~~1:10~50 IHC-P~~1:100~500 WB~~ 1:1000
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.
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

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

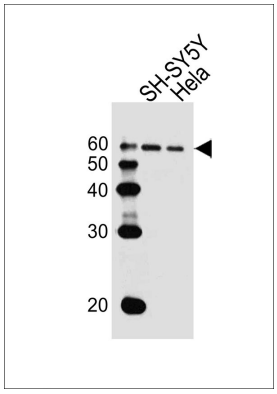
This gene product belongs to the histone deacetylase family. Histone deacetylases act via the formation of large multiprotein complexes, and are responsible for the deacetylation of lysine residues at the N-terminal regions of core histones (H2A, H2B, H3 and H4). This protein forms transcriptional repressor 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.

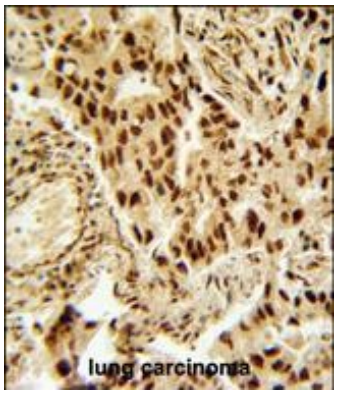
References

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)

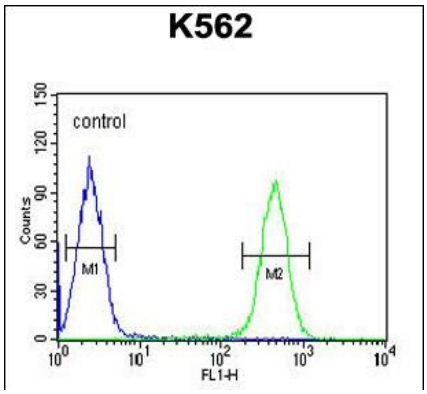
Images

Western blot analysis of lysates from SH-SY5Y,Hela cell line (from left to right), using HDAC2 Antibody (Center)(Cat. #AW5261). AW5261 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.

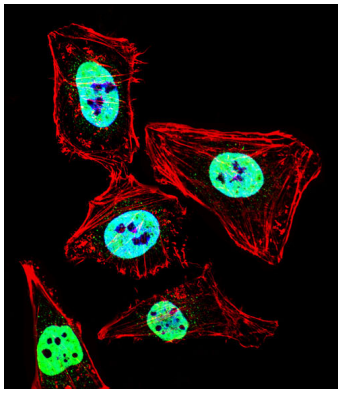




HDAC2 Antibody (Center) (Cat. #AW5261) immunohistochemistry analysis in formalin fixed and paraffin embedded human lung carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the HDAC2 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



HDAC2 Antibody (Center) (Cat. #AW5261) 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#AW5261).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.

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