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HDAC2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5398

Product Information

Application	IF, IHC-P, WB
Primary Accession	Q92769
Reactivity	Mouse, Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55364
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	3066
Antigen Region	456-488
Other Names	Histone deacetylase 2, HD2, HDAC2
Dilution	IF~~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 456-488 amino acids from the C-terminal region of human HDAC2.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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 (C-term) 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

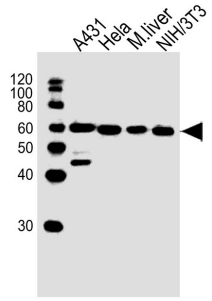
Histone deacetylase 2 (HDAC2), or transcriptional regulator homolog RPD3 L1, is highly homologous to the yeast transcription factor RPD3 (reduced potassium dependency 3) gene. As in yeast, human HDA2 is likely to be involved in regulating chromatin structure during transcription. It has been implicated to associate with YY1, a mammalian zinc-finger transcription factor, which negatively regulates transcription by tethering RPD3 to DNA as a cofactor. This process is highly conserved from yeast to human.

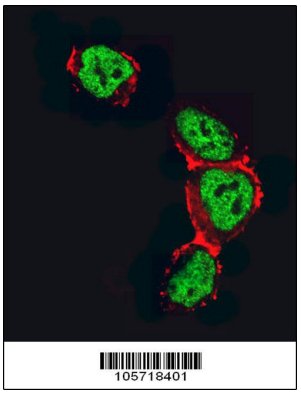
References

Choi, Y.B., et al., J. Biol. Chem. 279(49):50930-50941 (2004).
Zhu, P., et al., Cancer Cell 5(5):455-463 (2004).
Longworth, M.S., et al., J. Virol. 78(7):3533-3541 (2004).
Lu, Y., et al., J. Biol. Chem. 278(48):47792-47802 (2003).
Verdin, E., et al., Trends Genet. 19(5):286-293 (2003).

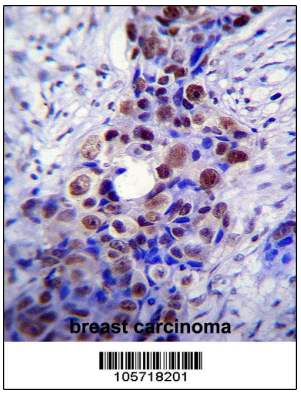
Images

All lanes : Anti-HDAC2 Antibody (C-term) at 1:1000 dilution Lane 1: A431 whole cell lysates Lane 2: Hela whole cell lysates Lane 3: mouse liver lysates Lane 4: NIH/3T3 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/10000 dilution Predicted band size : 55 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

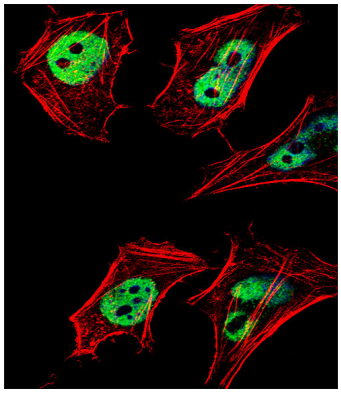




Confocal immunofluorescent analysis of HDAC2 Antibody (C-term)(Cat#AW5398) with 293 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).



HDAC2 Antibody (C-term) (Cat. #AW5398)immunohistochemistry analysis in formalin fixed and paraffin embedded human breast carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of HDAC2 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.



Fluorescent confocal image of Hela cell stained with HDAC2 Antibody (C-term)(Cat#AW5398).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). hHDAC2 immunoreactivity is localized to Nucleus significantly.