10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HDAC2 Antibody

Catalog # ASC11825

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q92769
Other Accession	NP_001518, 293336691
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	55364
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	HDAC2 antibody can be used for detection of HDAC2 by Western blot at 0.5 - 1 □g/ml. Antibody can also be used for Immunohistochemistry at 5 □g/mL. For Immunoflorescence start at 20 □g/mL.

Additional Information

Gene ID	3066
Other Names	Histone deacetylase 2, HD2, 3.5.1.98, HDAC2
Target/Specificity	HDAC2; HDAC2 antibody is human, mouse and rat reactive. At least two isoforms of HDAC2 are known to exist; this antibody will detect both isoforms. HDAC2 antibody is predicted to not cross-react with other members of the HDAC family.
Reconstitution & Storage	HDAC2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	HDAC2 Antibody 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.

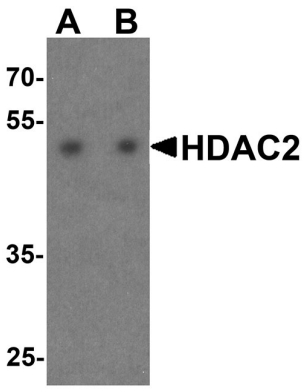
Background

The histone deacetylase (HDAC) family contains multiple members which are divided into four classes. Class I of the HDAC family comprises four members, HDAC1, 2, 3, and 8, each of which contains a deacetylase domain and exhibits a different, individual substrate specificity and function in vivo (1). HDAC2 was first identified as as a mammalian homolog to the yeast transcriptional regulator RPD3 (2). HDAC2 forms transcriptional repressor complexes by associating with many different proteins, including YY1, a mammalian zinc-finger transcription factor (2,3). Thus, it plays an important role in transcriptional regulation, cell cycle progression and developmental events (4).

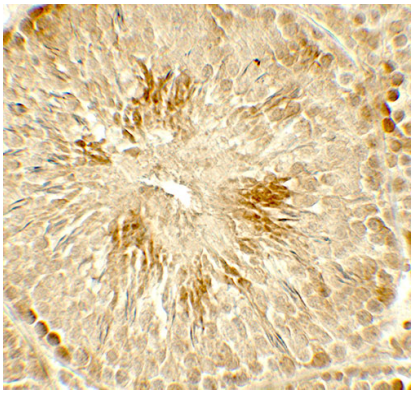
References

Taunton J, Hassig CA, and Schreiber SL. A mammalian histone deacetylase related to the yeast transcriptional regulator Rpd3p. Science 1996; 272:408-11.
Yang WM, Inouye C, Zeng Y, et al. Transcriptional repression by YY1 is mediated by interaction with a mammalian homolog of the yeast global regulator RPD3. Proc. Natl. Acad. Sci. USA 1996; 93:12845-50.
Cress WD and Seto E. Histone deacetylases, transcriptional control, and cancer. J. Cell Phys. 2000; 184:1-16.
Kramer OH. HDAC2: a critical factor in health and disease. Trends Pharmacol. Sci. 2009; 30:647-55.

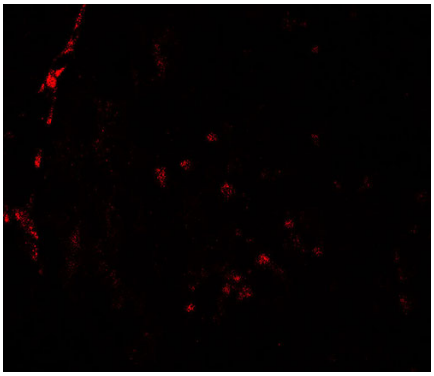
Images



Western blot analysis of HDAC2 in HeLa cell lysate with HDAC2 antibody at (A) 0.5 and (B) 1 µg/ml.



Immunohistochemistry of HDAC2 in rat testis tissue with HDAC2 antibody at 5 µg/mL.



Immunofluorescence of HDAC2 in rat testis tissue with HDAC2 antibody at 20 µg/mL.

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