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HDAC7 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1107a

Product Information

Application	WB, E
Primary Accession	Q8WUI4
Other Accession	NP_056216
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB5656
Calculated MW	102927
Antigen Region	920-952

Additional Information

Gene ID	51564
Other Names	Histone deacetylase 7, HD7, Histone deacetylase 7A, HD7a, HDAC7, HDAC7A
Target/Specificity	This HDAC7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 920-952 amino acids from the C-terminal region of human HDAC7.
Dilution	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 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	HDAC7 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HDAC7
Synonyms	HDAC7A
Function	Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4) (By similarity). 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). Involved in muscle maturation by repressing transcription of myocyte enhancer factors such as MEF2A, MEF2B and MEF2C (By similarity). During muscle differentiation, it shuttles into the cytoplasm, allowing the expression of myocyte enhancer factors (By similarity). May be involved in Epstein-Barr virus (EBV) latency, possibly by repressing the viral BZLF1 gene (PubMed:12239305). Positively regulates the transcriptional repressor activity of FOXP3 (PubMed:17360565). Serves as a corepressor of RARA, causing its deacetylation and inhibition of RARE DNA element binding (PubMed:28167758). In association with RARA, plays a role in the repression of microRNA-10a and thereby in the inflammatory response (PubMed:28167758). Also acetylates non-histone proteins, such as ALKBH5 (PubMed:37369679).
Cellular Location	Nucleus. Cytoplasm Note=In the nucleus, it associates with distinct subnuclear dot-like structures (PubMed:11262386). Shuttles between the nucleus and the cytoplasm (PubMed:16980613). In muscle cells, it shuttles into the cytoplasm during myocyte differentiation (By similarity). The export to cytoplasm depends on the interaction with the 14-3-3 protein YWHAE and is due to its phosphorylation (PubMed:16980613) {ECO:0000250|UniProtKB:Q8C2B3, ECO:0000269|PubMed:11262386, ECO:0000269|PubMed:16980613}

Background

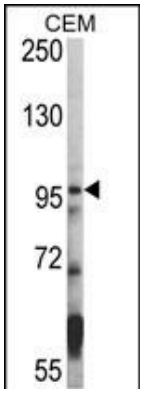
Histone deacetylase (HDAC) and histone acetyltransferase (HAT) are enzymes that regulate transcription by selectively deacetylating or acetylating the eta-amino groups of lysines located near the amino termini of core histone proteins (1). Eight members of HDAC family have been identified in the past several years (2,3). These HDAC family members are divided into two classes, I and II. Class I of the HDAC family comprises four members, HDAC-1, 2, 3, and 8, each of which contains a deacetylase domain exhibiting from 45 to 93% identity in amino acid sequence. Class II of the HDAC family comprises HDAC-4, 5, 6, and 7, the molecular weights of which are all about two-fold larger than those of the class I members, and the deacetylase domains are present within the C-terminal regions, except that HDAC-6 contains two copies of the domain, one within each of the N-terminal and C-terminal regions. Human HDAC-1, 2 and 3 were expressed in various tissues, but the others (HDAC-4, 5, 6, and 7) showed tissue-specific expression patterns (3). These results suggested that each member of the HDAC family exhibits a different, individual substrate specificity and function in vivo.

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).

Images

Western blot analysis of hHDAC7-A935 (Cat. #AP1107a) in CEM cell line lysates (35ug/lane). HDAC7 (arrow) was detected using the purified Pab.



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