

Rabbit HDAC4 Polyclonal Antibody | anti-HDAC4 antibody

HDAC4 Antibody

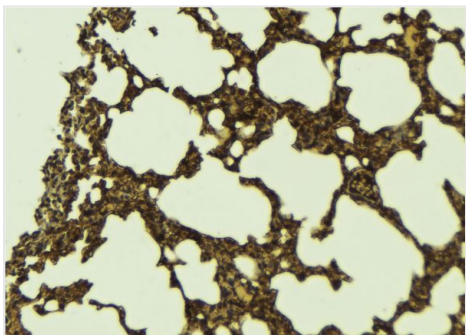
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA325846	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

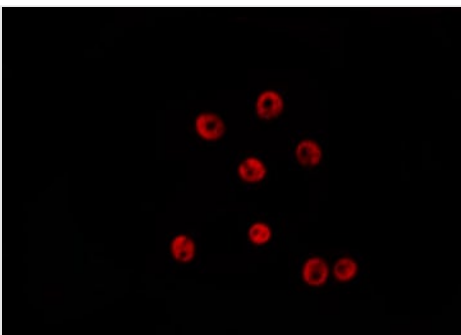
HDAC4; Polyclonal Antibody; HDAC4 Antibody; AHO3; BDMR; EC 3.5.1.98; HA6116; HD 4; HD4; HDAC 4; HDAC A; HDAC4_HUMAN; HDACA; Histone deacetylase 4; Histone Deacetylase A; KIAA0288; anti-HDAC4 antibody

PRODUCT SPECIFICATIONS

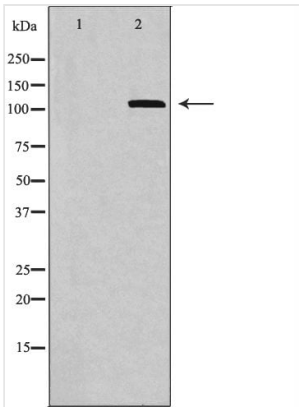
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	HDAC4 antibody detects endogenous levels of total HDAC4
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	1084
Applicable Applications for anti-HDAC4 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthetic peptide of human HDAC4
Subcellular Location	Nucleus. Cytoplasm. Shuttles between the nucleus and the cytoplasm. Upon muscle cells differentiation, it accumulates in the nuclei of myotubes, suggesting a positive role of nuclear HDAC4 in muscle differentiation. The export to cytoplasm depends on the interaction with a 14-3-3 chaperone protein and is due to its phosphorylation at Ser-246, Ser-467 and Ser-632 by CaMK4. The nuclear localization probably depends on sumoylation.
Tissue Specificity	Ubiquitous.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemistry)
AAA325846 at 1/100 staining Mouse lung tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



IF (Immunofluorescence)
AAA325846 staining HeLa by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)
Western blot analysis of HeLa whole cell lysates, using HDAC4 Antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-HDAC4 antibody	Description: Acetylation of the histone tail causes chromatin to adopt an open conformation, allowing increased accessibility of transcription factors to DNA. The identification of histone acetyltransferases (HATs) and their large multiprotein complexes has yielded important insights into how these enzymes regulate transcription (1, 2). HAT complexes interact with sequence-specific activator proteins to target specific genes. In addition to histones, HATs can acetylate nonhistone proteins, suggesting multiple roles for these enzymes (3). In contrast, histone deacetylation promotes a closed chromatin conformation and typically leads to repression of gene activity (4). Mammalian histone deacetylases can be divided into three classes on the basis of their similarity to various yeast deacetylases (5). Class I proteins (HDACs 1, 2, 3, and 8) are related to the yeast Rpd3-like proteins, those in class II (HDACs 4, 5, 6, 7, 9, and 10) are related to yeast Hda1-like proteins, and class III proteins are related to the yeast protein Sir2. Inhibitors of HDAC activity are now being explored as potential therapeutic cancer agents (6, 7). Function: Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone deacetylases act via the formation of large multiprotein complexes. Involved in muscle maturation via its interaction with the myocyte enhancer factors such as MEF2A, MEF2C and MEF2D. Involved in the MTA1-mediated epigenetic regulation of ESR1 expression in breast cancer. Deacetylates HSPA1A and HSPA1B at 'Lys-77' leading to their preferential binding to co-chaperone STUB1 (PubMed:27708256). Subunit Structure: Homodimer. Homodimerization via its N-terminal domain (PubMed:12032081). Interacts with MEF2A (PubMed:10487761). Interacts with MEF2C and MEF2D (PubMed:10523670). Interacts with AHRR (By similarity). Interacts with NR2C1 (PubMed:11463856). Interacts with HDAC7 (By similarity). Interacts with a 14-3-3 chaperone protein in a phosphorylation dependent manner (PubMed:10958686). Interacts with BTBD14B (By similarity). Interacts with KDM5B (PubMed:17373667). Interacts with MYOCD (By similarity). Interacts with MORC2 (PubMed:20110259). Interacts (via PxLPxI/L motif) with ANKRA2 (via ankyrin repeats). Interacts with CUL7 (as part of the 3M complex); negatively regulated by ANKRA2 (PubMed:25752541). Interacts with EP300 in the presence of TFAP2C (PubMed:24413532). Interacts with HSPA1A and HSPA1B leading to their deacetylation at 'Lys-77' (PubMed:27708256). Interacts with ZBTB7B; the interaction allows the recruitment of HDAC4 on CD8 loci for deacetylation and possible inhibition of CD8 genes expression (By similarity). Post-translational Modifications: Phosphorylated by CaMK4 at Ser-246, Ser-467 and Ser-632. Phosphorylation at other residues by CaMK2D is required for the interaction with 14-3-3. Phosphorylation at Ser-350, within the PxLPxI/L motif, impairs the binding of ANKRA2 but generates a high-affinity docking site for 14-3-3. Sumoylation on Lys-559 is promoted by the E3 SUMO-protein ligase RANBP2, and prevented by phosphorylation by CaMK4. Similarity: The nuclear export sequence mediates the shuttling between the nucleus and the cytoplasm. The PxLPxI/L motif mediates interaction with ankyrin repeats of ANKRA2. Belongs to the histone deacetylase family. HD type 2 subfamily.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	153085395
NCBI GeneID	9759
NCBI Accession #	NP_006028.2
NCBI GenBank Nucleotide #	NM_006037.3
UniProt Accession #	P56524; Q86YH7; Q9UND6; E9PGB9; F5GX36
Molecular Weight	Observed: 119 kDa Predicted: 120 kDa
NCBI Official Full Name	histone deacetylase 4
NCBI Official Synonym Full Names	histone deacetylase 4
NCBI Official Symbol	HDAC4
NCBI Official Synonym Symbols	HD4; AHO3; BDMR; HDACA; HA6116; HDAC-4; HDAC-A
NCBI Protein Information	histone deacetylase 4
UniProt Protein Name	Histone deacetylase 4
UniProt Gene Name	HDAC4

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/hdac4-antibody-immunocytochemistry-immunofluorescence-immunohistochemistry-western-blot-elisa/325846>