SunLong Biotech Co.,LTD
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[Marker Primary Antibody]

Rabbit Anti-HDAC1/AF647 Conjugated antibody

Catalog Number: SL2895R-AF647

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-HDAC1/AF647
Immunogen:	KLH conjugated synthetic peptide derived from human HDAC1
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IF=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Mouse,Rat(predicted:Human,Dog,Pig,Cow,Sheep,GuineaPig)
Background:	background: Reversible acetylation of highly conserved lysine residues within the N-terminal tail domains of core histones, plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone acetylation is a dynamic process determined by the net activities of histone acetyltransferases (HATs) and the competing enzymes histone deacetylases (HDACs). Histone deacetylases activities are often, but not always, associated with transcriptional repression and nucleosomal condensations. Recruitment of the multiprotein complexes to promoter sites occurs by many sequence specific DNA-binding proteins such as unliganded nuclear hormone receptors, DP1-E2F, YY1 and Rb family of transcription factors, transcriptional repressors and tumor suppressors (e.g. BRCA1). Aberrant recruitment of HDACs by certain oncoproteins may occur in certain neoplastic diseases. **Function:** Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone

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	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. Deacetylates SP proteins, SP1 and SP3, and regulates their function. Component of the BRG1-RB1-HDAC1 complex, which negatively regulates the CREST-mediated transcription in resting neurons. Upon calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation Deacetylates TSHZ3 and regulates its transcriptional repressor activity. Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B. Component a RCOR/GFI/KDM1A/HDAC complex that suppresses, via histone deacetylase (HDAC) recruitment, a number of genes implicated in multilineage blood cell development. **Subunit:** Interacts with C10orf90/FATS (via its N-terminal): the interaction prevents binding of HDAC1 to CDKN1A/p21 and facilitates the acetylation and stabilization of CDKN1A/p21. Interacts with CDKN1A/p21; the interaction is prevented by binding of C10orf90/FATS facilitating acetylation and stabilization of CDKN1A/p21. Component of a RCOR/GFI/KDM1A/HDAC complex. Interacts directly with GFI1 and GFI1B (By similarity). Part of the core histone deacetylase (HDAC) complex composed of HDAC1, HDAC2, RBBP4 and RBBP7. The core complex associates with MTA2, MBD2, MBD3, MTA1L1, CHD3 and CHD4 to form the nucleosome remodeling and histone deacetylation (NuRD) complex, or with SIN3, SAP18 and SAP30 to form the SIN3 HDAC complex. Component of a BHC histone deacetylase complex that contains HDAC1, HDAC2, HMG20B/BRAF35, KDM1A, RCOR1/CoREST and PHF21A/BHC80. The BHC complex may also contain ZMYM2, ZNF217, ZMYM3, GSE1 and GTF2I. Associates with the 9-1-1 complex; interacts with HUS1. Found in a complex with DNMT3A and HDAC7. Interacts with BAZ2A/TIP5, BCOR, BRMS1L, DAXX, DNMT1, EP300, HCFC1, NFE4, PCAF, PHB2, MIER1, KDM4A, MINT, NRIP1, PRDM6, RERE, SETDB1, SMYD2, SUV39H1, TGIF, TGIF2, UHRF1, UHRF2 and ZNF541. Interacts with the non-histone region of H2AFY. Interacts with HDAC9. Component of a mSin3A corepressor complex that contains SIN3A, SAP130, SUDS3/SAP45, ARID4B/SAP180, HDAC1 and HDAC2. Interacts with BANP, CBFA2T3 and KDM5B. Interacts with SAP30L. Interacts with E4F1. Interacts with KFL1 and SAMSN1 (By similarity).

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	Interacts with SV40 large T antigen. Interacts with CHFR, PRDM16 and SMAD3. Interacts with SP1; the interaction deacetylates SP1 and regulates its transcriptional activity. Interacts with SP3; the interaction deacetylates SP3 and regulates its transcriptional activity. In vitro, C(18) ceramides increase this interaction and the subsequent SP3 deacetylation and SP3-mediated repression of the TERT promoter. Interacts with RB1 and SMARCA4/BRG1. Interacts with TRAF6. Interacts with TSHZ3 (via N-terminus); the interaction is direct. Found in a trimeric complex with APBB1 and TSHZ3; the interaction between HDAC1 and APBB1 is mediated by TSHZ3. Interacts with APEX1; the interaction is not dependent on the acetylated status of APEX1. Interacts with NR4A2/NURR1 and BRMS1. Interacts with TRIM28; the interaction recruits HDAC1 to E2F1 and inhibits its acetylation. Binds to CDK5 complexed to CDK5R1 (p25). Interacts with ZMYND15 (By similarity). Interacts with DDX5. Part of a complex composed of TRIM28, HDAC1, HDAC2 and EHMT2. **Subcellular Location:** Nucleus. **Tissue Specificity:** Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain. **Post-translational modifications:** Sumoylated on Lys-444 and Lys-476; which promotes enzymatic activity. Desumoylated by SENP1. Phosphorylation on Ser-421 and Ser-423 promotes enzymatic activity and interactions with NuRD and SIN3 complexes. Phosphorylated by CDK5. Ubiquitinated by CHFR, leading to its degradation by the proteasome. Ubiquitinated by KCTD11, leading to proteasomal degradation. **Similarity:** Belongs to the histone deacetylase family. HD type 1 subfamily. **Database links:** **Entrez Gene:** 404126 Cow **Entrez Gene:** 3065 Human **Entrez Gene:** 433759 Mouse **Entrez Gene:** 297893 Rat Omim: 601241 Human **SwissProt:** Q32PJ8 Cow **SwissProt:** Q13547 Human **SwissProt:** O09106 Mouse **SwissProt:** Q4QQW4 Rat **Unigene:** 88556 Human **Unigene:** 202504 Mouse **Unigene:** 391033 Mouse **Unigene:** 1863 Rat

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