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Product datasheet for TA347134

HDAC1 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	ELISA, IF, WB
Recommended Dilution:	ChIP/ChIP-seq (2 µg/IP); ELISA (1:4,000); Western blotting (1:1,000); IF (1:500)
Reactivity:	Human
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	The immunogen for anti-HDAC1 antibody: the C-terminal region of human HDAC1 (Histone deacetylase 1), using a KLH-conjugated synthetic peptide.
Concentration:	lot specific
Purification:	Affinity purified polyclonal antibody in PBS containing 0.05% azide and 0.05% ProClin 300.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	histone deacetylase 1
Database Link:	NP_004955 Entrez Gene 3065 Human Q13547
Background:	HDAC1 (UniProt/Swiss-Prot entry Q13547) catalyses the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Acetylation and deacetylation of these highly conserved lysine residues is important for the control of gene expression and HDAC activity is often associated with gene repression. Histone deacetylation is established by the formation of large multiprotein complexes. HDAC1 also interacts with the retinoblastoma tumor suppressor protein and is able to deacetylate p53. Therefore, it also plays an essential role in cell proliferation and differentiation and in apoptosis.
Synonyms:	GON-10; HD1; RPD3; RPD3L1
Protein Families:	Adult stem cells, Druggable Genome, Stem cell - Pluripotency, Stem cell relevant signaling - DSL/Notch pathway, Transcription Factors

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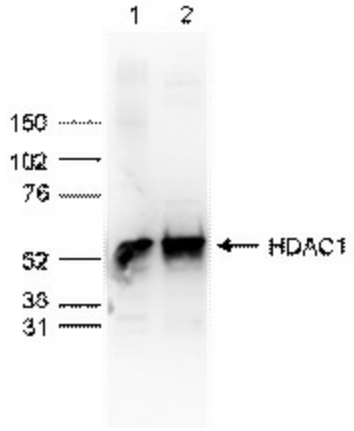
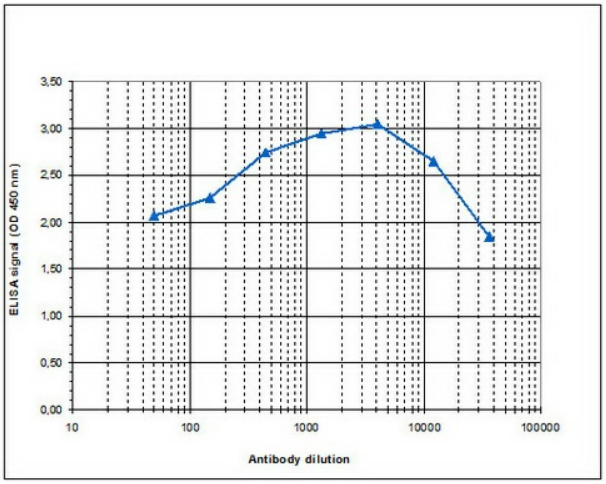
Protein Pathways: Cell cycle, Chronic myeloid leukemia, Huntington's disease, Notch signaling pathway, Pathways in cancer

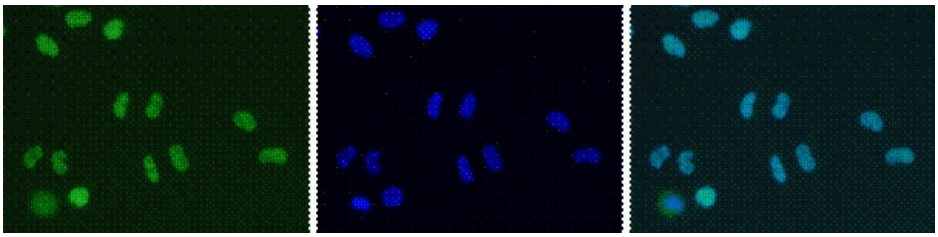
Product images:



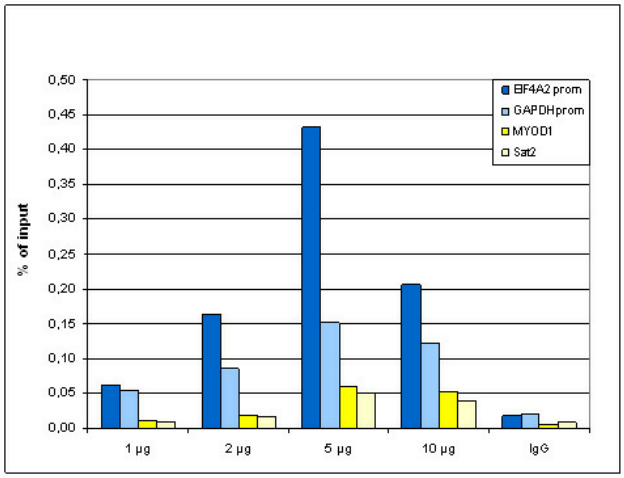
WB using the antibody against HDAC1 diluted 1:1,000 in TBS-Tween containing 5% skimmed milk. The position of the protein of interest is indicated on the right (expected size: 55 kDa); the marker (in kDa) is shown on the left.



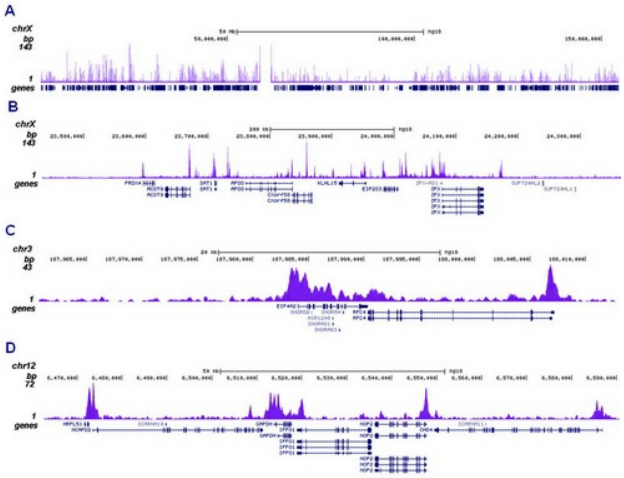
Determination of the antibody titer To determine the titer of the antibody, an ELISA was performed using a serial dilution of antibody against HDAC1. The plates were coated with the peptide used for immunization of the rabbit. By plotting the absorbance against the antibody dilution (Figure 3), the titer of the antibody was estimated to be 1:75,000.



HeLa cells were stained with the antibody against HDAC1 and with DAPI. Cells were fixed with 4% formaldehyde for 10' and blocked with PBS/TX-100 containing 5% normal goat serum and 1% BSA. The cells were immunofluorescently labelled with the HDAC1 antibody (left) diluted 1:500 in blocking solution followed by an anti-rabbit antibody conjugated to Alexa488. The middle panel shows staining of the nuclei with DAPI. A merge of the two stainings is shown on the right.



ChIP was performed with the ab against HDAC1 on sheared chromatin from 4,000,000 HeLa cells. An antibody titration consisting of 1, 2, 5 and 10 ug per ChIP experiment was analysed. IgG (2 ug/IP) was used as negative control. qPCR primers were specific for the EIF4A2 and GAPDH promotersas positive controls, and for the MYOD1 gene and Sat2 satellite repeatas negative controls. Image shows the recovery, expressed as a % of input (the relative amount of IP'd DNA compared to input DNA after qPCR).



ChIP was performed on sheared chromatin from 4,000,000 HeLa cells using 2 ug of the ab against HDAC1 as described above. The IP'd DNA was subsequently analysed on an Illumina HiSeq 2000. The 50 bp tags were aligned to the human genome using the BWA algorithm. Image shows the peak distribution along the complete sequence and a 1 Mb region of the X-chromosome and in two regions surrounding the GAPDH and EIF4A2 positive control genes, respectively (figure 2C and D).