

PRODUCT NAME		
HDAC1 polyclonal antibody		
Other names: HD1, RPD3, RPD3L1, GON-10		
Cat. No. <b>pAb-053-050</b>	Type: Polyclonal <b>ChIP grade</b>	Size: 50 µg/ 79 µl
Lot #: A21-0042	Source: Rabbit	Concentration: 0.64 µg/µl

**Description:** Polyclonal antibody raised in rabbit against the C-terminal region of human HDAC1 (Histone deacetylase 1), using a KLH-conjugated synthetic peptide.

**Specificity:** Human: positive  
Other species: not tested

Applications	Suggested dilution	References
ChIP	2 µg/IP	Fig 1
ELISA	1:500	Fig 2
Western blotting	1:1,000	Fig 3

**Purity:** Affinity purified polyclonal antibody in PBS containing 0.05% azide and 0.05% ProClin 300.

**Storage:** Store at -20°C; for long storage, store at -80°C. Avoid multiple freeze-thaw cycles.

**Precautions:** This product is for research use only. Not for use in diagnostic or therapeutic procedures.

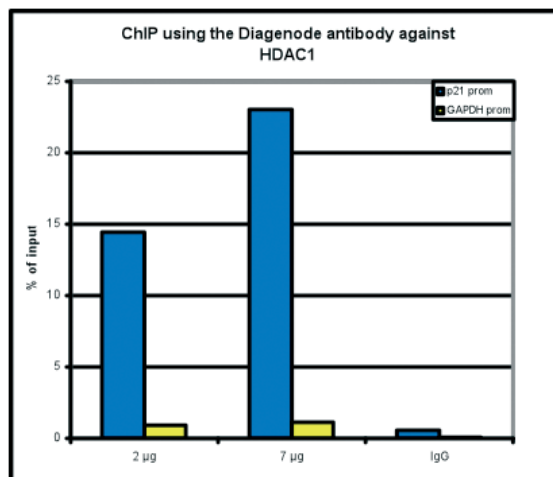
**References citing this antibody:**

- (1) Denis H, Deplus R, Putmans P, Yamada M, Métivier R, Fuks F (2009) Functional connection between deimination and deacetylation of histones. *Mol Cell Biol* 29: 4982-4993.
- (2) Philipot O, Joliot V, Ait-Mohamed Q, Pellentz C, Robin P, Fritsch L, Ait-Si-Ali S (2010) The core binding factor CBF negatively regulates skeletal muscle terminal differentiation. *Plos One* 5: e9425.

**Last data sheet update:** August 16, 2010

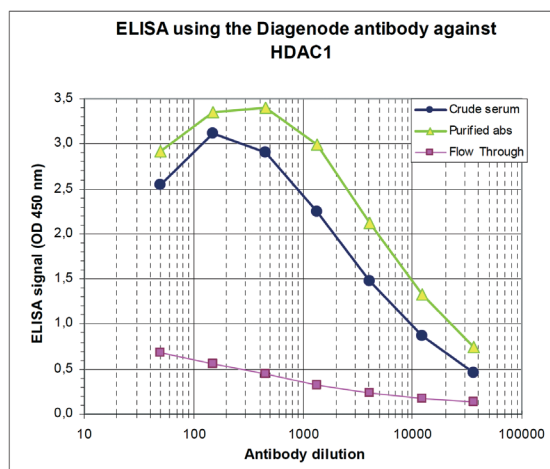
**Target description**

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.



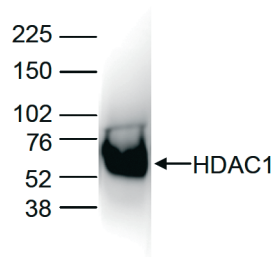
**Figure 1**  
**ChIP results obtained with the Diagenode antibody directed against HDAC1**

ChIP assays were performed using human HeLa cells, the Diagenode antibody against HDAC1 (Cat. No. pAb-053-050) and optimized PCR primer sets for qPCR. ChIP was performed with the "LowCell# ChIP" kit (Cat. No. kch-maglow-016), using sheared chromatin from 10,000 cells. Two different quantities of antibody (2 and 7 µg per ChIP experiment) were analysed. IgG (5 µg/IP) was used as negative IP control. QPCR was performed with primers for the GAPDH promoter and for the coding region of p21, a known target gene of HDAC1. Figure 4 shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis).



**Figure 2**  
**Determination of the antibody titer**

To determine the titer of the antibody, an ELISA was performed using a serial dilution of Diagenode antibody directed against HDAC1 (Cat. No. pAb-053-050), crude serum and flow through. The plates were coated with the peptide used for immunization of the rabbit. By plotting the absorbance against the antibody dilution (Figure 2), the titer of the antibody was estimated to be 1:7,850.



**Figure 3**

**Western blot analysis using the Diagenode antibody directed against HDAC1**

Nuclear extracts from HeLa cells (40 µg) were analysed by Western blot using the Diagenode antibody against HDAC1 (Cat. No. pAb-053-050) 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.