# Recombinant Human HDAC1 Protein, Full Length, C-Flag tagged

**Cat. No.** HDAC1-13HFL **Lot. No.** (See product label)

## SPECIFICATION

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| **Product Overview** | Recombinant human HDAC1 was expressed in Sf9 cells as the full length protein (accession number NP_004955.2) with a C-Flag tag was expressed in HEK293T. |
| **Species** | Human |
| **Source** | Baculovirus |
| **ProteinLength** | Full Length |
| **Description** | HDAC1 (Histone Deacetylase 1, also designated HD1) is a member of the class I mammalian histone deacetylases (HDACs) involved in regulating chromatin structure during transcription. These enzymes catalyze the removal of acetyl groups from lysine residues of histones and other cellular proteins. Lysine N-ε-acetylation is a dynamic, reversible and tightly regulated protein and histone modification that plays a major role in regulation of gene expression in various cellular functions. It consists of the transfer of an acetyl moiety from an acetyl coenzyme A to the ε-amino group of a lysine residue.In vivo, acetylation is controlled by the antagonistic activities of histone acetyltransferases (HATs) and histone deacetylases (HDACs). The HDACs are grouped into four classes, on the basis of similarity to yeast counterparts: HDAC class I (HDAC1, HDAC2, HDAC3 and HDAC8), class II (HDAC4, HDAC5, HDAC6, HDAC7, HDAC9 and HDAC10), class III (SIRT1, SIRT2, SIRT3, SIRT4, SIRT5, SIRT6 and SIRT-7) and class IV (HDAC11). HDAC1 and HDAC2 are recruited to Mad-Max complexes, which associate with the mSin3 scaffold protein, and are required for the |

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| | transcriptional repression of Mad-Max target genes. HDAC1 is also involved in the regulation of p53. HDAC1 is expressed in various tissues. HDAC1, HDAC2 and HDAC3 are also ubiquitously expressed and can deacetylate both Histone H3 and Histone H4 in free histones or nucleosome substrate. |
| **Molecular Mass** | The molecular weight of the protein is 56 kDa. |
| **Purity** | > 65% by SDS-PAGE |
| **Applications** | Recombinant HDAC1 is suitable for the study of enzyme kinetics, screening inhibitors, and selectivity profiling. Active Motif offers a variety of protein screening tools including HDAC Assay Kits. |
| **Storage** | Recombinant proteins in solution are temperature sensitive and must be stored at -80 centigrade to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. |
| **Storage Buffer** | 3 μM Histone H3K9ac (1-21aa) peptide was incubated with HDAC1 protein in reaction buffer including 25 mM Tris-HCl pH 8.0, 137 mM NaCl, 2.7 mM MgCl2, 1 mM KCl and 0.1 mg/mL BSA for 30 min at 37 centigrade. HTRF assay was used for activity detection. |
| **References** | 1. Bio. Protoc. (2018). 8(14): pii: e2924. PMID: 30283810.<br>2. Nat Commun. (2018). Jan 9;9(1):105. PMID: 29317660. |

## GENE INFORMATION

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|---|---|
| **Gene Name** | HDAC1 histone deacetylase 1 [ Homo sapiens (human) ] |
| **Official Symbol** | HDAC1 |

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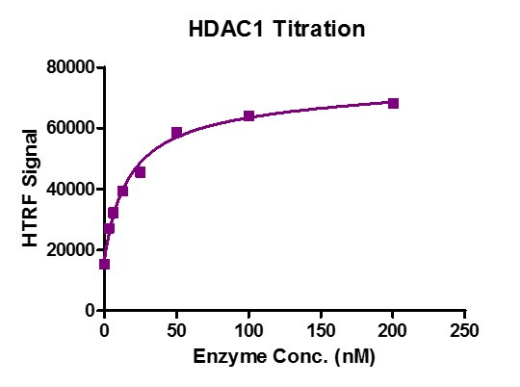
| **Synonyms** | HDAC1; histone deacetylase 1; RPD3L1; GON 10; HD1; reduced potassium dependency, yeast homolog-like 1; RPD3; GON-10; DKFZp686H12203; |
| **Gene ID** | 3065 |
| **mRNA Refseq** | NM_004964 |
| **Protein Refseq** | NP_004955 |
| **MIM** | 601241 |
| **UniProt ID** | Q13547 |
| **Recombinant HDAC1 activity assay.** |  <br>3 μM Histone H3K9ac (1-21aa) peptide was incubated with different concentrations of HDAC1 protein in reaction buffer for 30 min at 37 centigrade, Reaction product was detected by Anti-H3K9me0-Eu antibody. HTRF assay was used for activity detection. |

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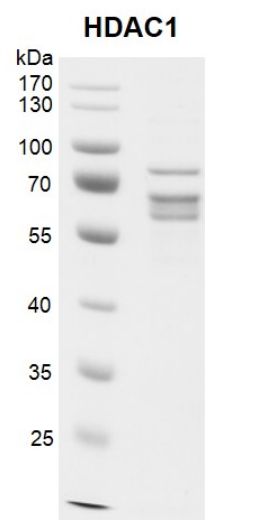
**Recombinant HDAC1 protein gel.**




HDAC1 protein was run on an 8% SDS-PAGE gel and stained with Coomassie blue.

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