

Product Information



HDAC1 (human recombinant)

Item No. 10009231

Synonym:	Histone Deacetylase 1
Source:	Human recombinant protein consisting of a C-terminal GST-tag expressed in baculovirus expression system
M_r:	~79.9 kDa
Purity:	~10% by SDS-PAGE
Stability:	≥6 months at -80°C
Supplied in:	50 µg in 25 mM Tris-HCl, pH 8.0, containing 130 mM sodium chloride, 0.05% Tween 20, and 10% glycerol
Specific Activity:	390 pmol/min/µg. Assay condition: 25 mM Tris/Cl, pH8.0, 137 mM sodium chloride, 2.7 mM potassium chloride, 1 mM magnesium chloride, and 0.1 mg/ml BSA, 20 µM BPS HDAC substrate (Item No. 50037), and 2 ng/µl HDAC1. Incubation condition: 30 min at 37°C.
Applications:	Enzyme kinetics, inhibitor screening, and selectivity profiling

Laboratory Procedures

Histone deacetylases (HDACs) catalyze the deacetylation of core histones, resulting in tightening of nucleosomal integrity, restriction of the access of transcription factors, and suppression of transcription. HDACs also play an important role in mediating nuclear receptor functions by forming co-repressor complexes with nuclear receptors in the absence of ligands. They are also involved in mediating other transcription regulatory pathways by associating with transcription factors, such as E2F, TFIIE, TFIIF, NF-κB, p300, Stat3, p53, and the retinoblastoma (Rb) protein.¹

HDAC1 is a Class I HDAC which is related to the yeast HDAC Rpd3.² It is primarily localized to the nucleus with ubiquitous distribution throughout human cell lines and tissues. By modifying chromatin structure and other non-histone proteins, HDACs play important roles in controlling complex biological events, including cell development, differentiation, programmed cell death, angiogenesis, and inflammation. Considering these major roles, it is conceivable that dysregulation of HDACs and subsequent imbalance of acetylation and deacetylation may be involved in the pathogenesis of various diseases, including cancer and inflammatory diseases.²

References

1. Lin, H.-Y., Chen, C.-S., Lin, S.-P., *et al.* Targeting histone deacetylase in cancer therapy. *Medicinal Research Reviews* **26**(4), 397-413 (2006).
2. Huang, L. Targeting histone deacetylases for the treatment of cancer and inflammatory diseases. *J. Cell. Physiol.* **39**, 611-616 (2006).

Related Products

Trichostatin A - Item No. 89730 • HDAC Activity/Inhibitor Screening Assay Kit - Item No. 789701 • CAY10433 - Item No. 10005019 • HAT Inhibitor Screening Assay Kit - Item No. 10006515 • pCAF Histone Acetyltransferase - Item No. 10009115 • HDAC3 (human recombinant) - Item No. 10009232 • HDAC2 (human recombinant) - Item No. 10009377 • HDAC5 (human recombinant) - Item No. 10009379 • HDAC8 (human recombinant) - Item No. 10009380

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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