

PRODUCT INFORMATION



HDAC2 (human, recombinant)

Item No. 36419

Overview and Properties

Synonym: Histone Deacetylase 2
Source: Active recombinant human C-terminal His-tagged HDAC2 expressed in insect cells
Amino Acids: 1-488
Uniprot No.: Q92769
Molecular Weight: 56.1 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥80% estimated by SDS-PAGE
Supplied in: 20 mM potassium phosphate, pH 7.6, with 100 mM sodium chloride, 1 mM DTT, and 20% glycerol

Protein

Concentration: *batch specific* mg/ml

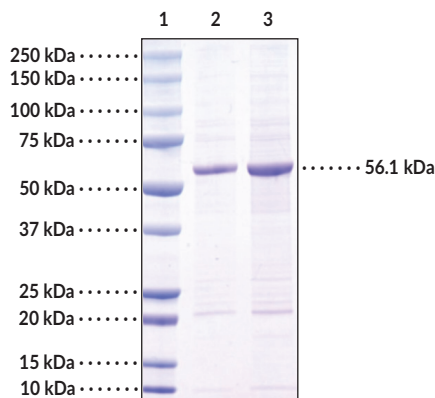
Activity: *batch specific* U/ml

Specific Activity: *batch specific* U/mg

Unit Definition: One unit is defined as the amount of enzyme required to release 1 nmol of acetate per minute at 37°C in 25 mM Tris-HCl, pH 8.0, with 137 mM sodium chloride, 2.7 mM potassium chloride, 1 mM magnesium chloride, and 50 μM of an acetylated p53 peptide.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



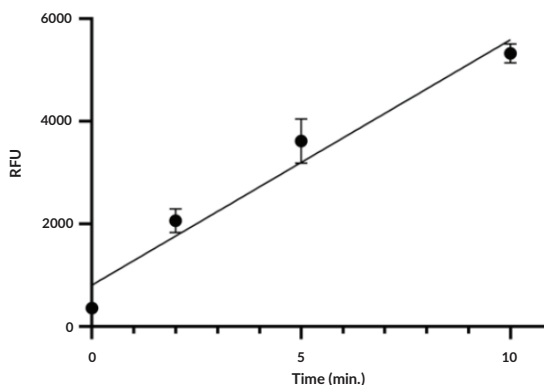
Lane 1: MW Markers

Lane 2: HDAC2 (2 μg)

Lane 3: HDAC2 (4 μg)

SDS-PAGE Analysis of HDAC2.

Representative gel image shown; actual purity may vary between each batch.



HDAC2 activity was determined using Cayman's HDAC8 Inhibitor Screening Assay Kit (Item No. 700230) with 1 μg HDAC2 (human, recombinant) and 50 μM of an acetylated p53 peptide.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Histone deacetylase 2 (HDAC2) is a class I HDAC that catalyzes the zinc-dependent deacetylation of core histones.^{1,2} It is primarily localized to the nucleus and is found in all human cell lines and tissues. HDAC2 is a component of various histone deacetylation and corepressor complexes with diverse roles in chromatin manipulation and the regulation of gene expression.³ It exhibits low enzymatic activity when in isolation, which increases greatly upon its incorporation into gene expression regulatory complexes. Dysregulation of HDAC2 is associated with various diseases, including cancer, Alzheimer's disease, stroke, and alcohol addiction.³⁻⁶ HDAC2 binds to the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) main protease (M^{Pro}), also known as 3C-like protease (3CL^{Pro}).⁷ Cayman's HDAC2 (human, recombinant) protein can be used for enzyme activity assays.

References

1. Lin, H.Y., Chen, C.S., Lin, S.P., *et al.* Targeting histone deacetylase in cancer therapy. *Med. Res. Rev.* **26**(4), 397-413 (2006).
2. Huang, L. Targeting histone deacetylases for the treatment of cancer and inflammatory diseases. *J. Cell. Physiol.* **209**(3), 611-616 (2006).
3. Seto, E. and Yoshida, M. Erasers of histone acetylation: The histone deacetylase enzymes. *Cold Spring Harb. Perspect. Biol.* **16**(4), a018713 (2014).
4. Mahady, L., Nadeem, M., Chen, K., *et al.* HDAC2 dysregulation in the nucleus basalis of Meynert during the progression of Alzheimer's disease. *Neuropathol. Appl. Neurobiol.* **45**(4), 380-397 (2019).
5. Tang, Y., Lin, Y.-H., Ni, H.-Y., *et al.* Inhibiting histone deacetylase 2 (HDAC2) promotes functional recovery from stroke. *J. Am. Heart Assoc.* **6**(10), e007236 (2017).
6. Pandey, S.C., Kyzar, E.J., and Zhang, H. Epigenetic bases of the dark side of alcohol addiction. *Neuropharmacology* **122**, 74-84 (2017).
7. Gordon, D.E., Jang, G.M., Bouhaddou, M., *et al.* A SARS-CoV-2 protein interaction map reveals targets for drug repurposing. *Nature* **583**(7816), 459-468 (2020).

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