Recombinant HDAC1 protein (His tag)

Catalog Number	540271
Synonyms	HD1; Protein deacetylase HDAC1; Protein deacylase HDAC1
Species	Human
Expression System	E. coli
Accession	Q13547
Molecular Weight	Predictes a molecular mass of 49.28 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 52 kDa band.

Product Information

Sequence Region	1-417
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-417 aa (Q13547) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Histone Deacetylase 1 (HDAC1) fragment (amino acids 1-417) is a high-purity, stable protein designed for epigenetic and transcriptional regulation research. This fragment retains key functional properties of the full-length enzyme, offering a reliable tool for biochemical assays, structural studies, and inhibitor screening. Histone deacetylase 1 (HDAC1) is a crucial epigenetic regulator in humans that catalyzes the deacetylation of lysine residues on core histones (H2A, H2B, H3, H4), leading to transcriptional repression. It functions within multiprotein complexes like NuRD and SIN3B to remodel chromatin and control cell cycle progression, developmental events, and gene expression. Beyond histones, HDAC1 deacetylates non-histone targets including SP1, SP3, RELA, STAT3, and TSHZ3, modulating their transcriptional activities. It also exhibits protein-lysine deacylase activity, acting as a decrotonylase and delactylase. HDAC1 is primarily localized in the nucleus and plays roles in circadian rhythm regulation and neuronal transcription through complexes like BRG1-RB1-HDAC1. The provided fragment (1-417) is computationally optimized for solubility and stability, enabling detailed mechanistic and structural investigations into HDAC1's diverse functions.