

Recombinant HDAC4 protein

Catalog No: 31364

Expressed In: *E. coli*

Quantity: 100 µg

Concentration: 2.86 µg/µl

Source: Human

Buffer Contents: 100 µg of recombinant HDAC4 protein expressed in *E. coli* at a concentration of 2.86 mg/ml in 25mM HEPES pH7.5, 200mM KCl, 1mM DTT and 50% glycerol.

Background: HDAC4 (Histone Deacetylase 4) is a member of the class IIa 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 10), class III (SIRT1-7) and class IV (HDAC11).

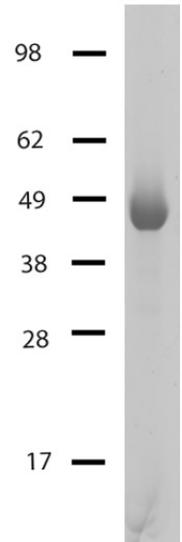
Unlike other deacetylases, **HDAC4** shuttles between the nucleus and cytoplasm and serves as a nuclear co-repressor that regulates bone and muscle development. **HDAC4** interacts with the myocyte enhancer factors Mef2a, Mef2c and Mef2d. It also forms part of a multi-protein complex with RbAp48 and HDAC3. **HDAC4** is ubiquitous.

Protein Details: HDAC4 is a Class II histone deacetylase with broad substrate specificity. The catalytic domain corresponding to amino acids 645 - 1057 of HDAC4 (accession number NP_006028.2) was expressed in *E. coli* with an apparent molecular weight of 45 kDa. An epitope tag present during expression was removed proteolytically after purification.

Application Notes: Recombinant HDAC4 is suitable for use in histone deacetylase (HDAC) assays. A good starting point is 2 to 5 ng of enzyme per assay.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



HDAC4 protein gel.
HDAC4 run on an SDS-PAGE gel and stained with Coomassie blue.