

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.

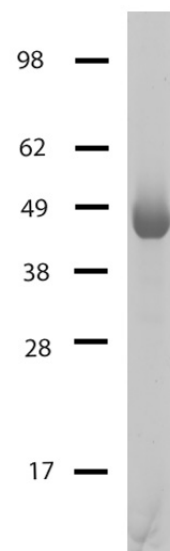
HDAC4 interacts with the myocyte enhancer factors Mef2a, Mef2c and Mef2d. It also forms part of a multi-protein complex with RbAp48 and HDAC3. **HDAC4** is ubiquitous.

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.