Recombinant HDAC4 protein

Catalog No: 31350
Expressed In: Baculovirus

Quantity: 10 µg
Concentration: 1.5 µg/µl
Source: Human

Buffer Contents: 10 µg recombinant HDAC4 supplied at a concentration of 1.5 µg/µl in a buffer of 45 mM Tris-HCl, pH 8.0, 124 mM NaCl, 2.4 mM KCl, 18 mM glutathione and 10% 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 specificity. The C-terminal part of HDAC4 (accession number NM_006037), amino acids 627-1084 (end), was expressed with an N-terminal GST tag (MW= 75.2 kDa) in a baculovirus expression system.

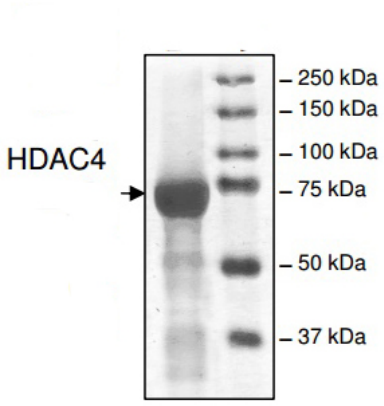
Application Notes: Recombinant HDAC4 protein is suitable for use in histone deactylase assays. It can also be used to study enzyme kinetics, inhibitor screening, and selectivity profiling.

Specific Activity: 103,255 pmol/min/µg.

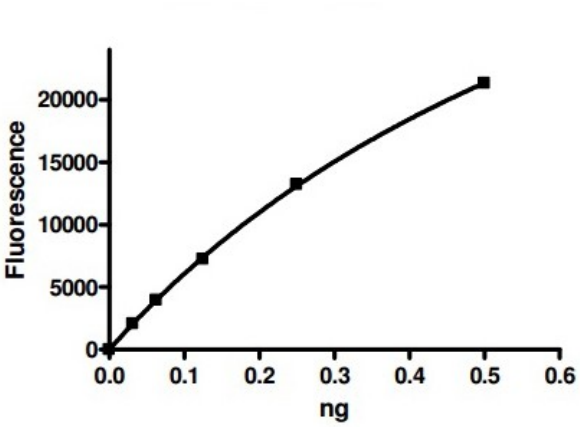
Assay conditions: Prepare 25 mM Tris-HCl, pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM $MgCl_2$, 0.1 mg/ml BSA, 20 µM HDAC class IIa substrate and recombinant HDAC4 protein. Incubate for 30 minutes at 37°C followed by developing for 15 minutes at room temperature.

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.



HDAC4 activity assay.
Recombinant HDAC4 activity measured using a fluorescent HDAC assay.