Recombinant HDAC6 (H625A) protein

Catalog No: 31565, 31965
Lot No: 21817003
Expressed In: Baculovirus

Quantity: 20, 1000 µg
Concentration: 0.5 µg/µl
Source: Human

Buffer Contents: Recombinant HDAC6 (H625A) protein is supplied in 25 mM HEPES pH 7.5, 300 mM NaCl, 5% Glycerol, 0.04% Triton X-100, 0.2 mM TCEP.

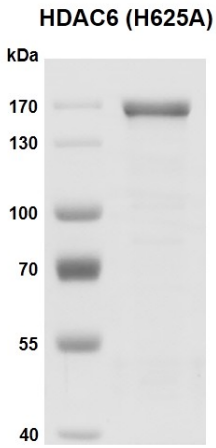
Background: HDAC6 (Histone Deacetylase 6) is a member of the class IIb mammalian histone deacetylases (HDACs) involved in regulating chromatin structure during transcription. These enzymes catalyze the removal of acetyl groups from lysine residues of histones or many cellular proteins. Lysine N-ε-acetylation is a dynamic, reversible and tightly regulated protein and histone modifiation 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, 9 and 10), class III (SIRT1-7) and class IV (HDAC11).

HDAC6 is a unique enzyme that harbors a full duplication of its deacetylase homology region, which appears to contribute independently to the overall activity of HDAC6 protein. alpha-tubulin and HSP90 are two known substrates of HDAC6, playing an important role in cellular mechanisms related to the microtubule network and HSP90-dependent events. HDAC6 also participates in regulating expression of a group of genes involved in the remodeling of chromatin during cell differentiation.

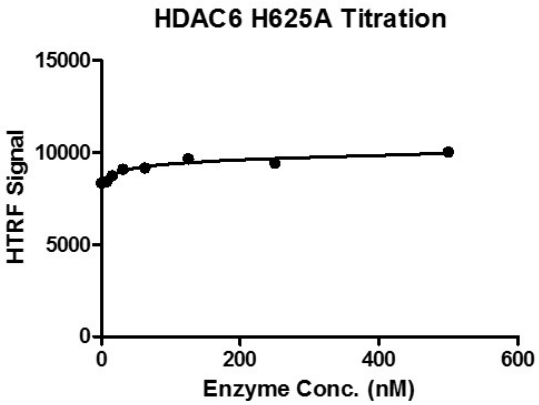
Protein Details: Recombinant human HDAC6 (H625A) was expressed in a baculovirus expression system as the full length protein (accession number NP_001308154.1) with a point mutation His625Ala and a C-terminal FLAG-Tag. The molecular weight of the protein is 135.7 kDa. The recombinant protein is >85% pure by SDS-PAGE.

Application Notes: HDAC Activity Assay Conditions: 1 µM H3K9ac (1-21) peptide was incubated with different concentrations of HDAC6 (H625A) protein in a 10 µl reaction system containing 25 mM Tris-HCl pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl2 and 0.1 mg/ml BSA for 30 minutes at 37°C. 10 µl H3K9me0 antibody and SA-XL665 mixture (each at 1:100 dilution in HTRF Detection Buffer) was added to each reaction system and incubated for 30 minutes. All operations were performed at room temperature. HTRF assay was used for detection.

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 for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.



Recombinant HDAC6 (H625A) protein gel
HDAC6 (H625A) protein was run on an 8% SDS-PAGE gel and stained with Coomassie Blue.
MW: 135.7 kDa
Purity: > 90%



HDAC6 (H625A) Protein activity assay.
1 µM H3K9ac (1-21) peptide was incubated with different concentrations of HDAC6 (H625A) protein in reaction buffer for 30 min. at 37°C followed by developing for 30 min. Reaction products were detected with H3K9me0 antibody. HTRF assay was used for activity detection and shows that H625A mutant loses enzymatic activity.