

## Recombinant HDAC3 / NCOR2 complex, His-Tag

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**Catalog No:** 31609, 31709

**Lot No:** 36116001

**Expressed In:** Baculovirus

**Quantity:** 50, 1000 µg

**Concentration:** 1 µg/µl

**Source:** Human

**Buffer Contents:** Recombinant HDAC3 / NCOR2 Complex, His-tag is supplied in 50 mM Tris-HCl pH 8.0, 300mM NaCl, 5% glycerol.

**Background:** HDAC3 (Histone Deacetylase 3, also designated HD3) is a member of the class I 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: class I (HDAC1, HDAC2, HDAC3 and HDAC8), class II (HDAC4, HDAC5, HDAC6, HDAC7, HDAC9 and 10), class III (SIRT1-7) and class IV (HDAC11).

By forming multi-protein complexes with the co-repressors NCOR2, HDAC3 regulates the transcription of a plethora of genes. A growing list of non-histone proteins extends the role of HDAC3 beyond transcriptional repression. HDAC1, HDAC2 and HDAC3 are also ubiquitously expressed and can deacetylate both H3 and H4 in free histones or nucleosome substrate.

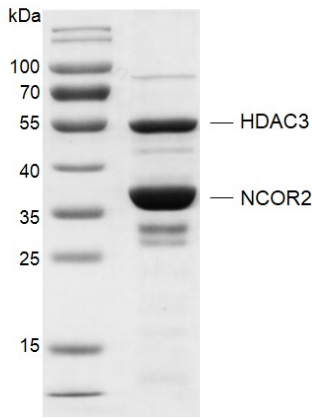
**Protein Details:** Recombinant HDAC3 / NCOR2 Complex, His-tag that includes full length human HDAC3 protein (accession number NP\_003874.2) with a C-terminal 6×His tag and human NCOR2 amino acids 395-489 (accession number NP\_006303.4) with an N-terminal GST tag was expressed in Sf9 cells. The molecular weights of HDAC3 and NCOR2 (395-489) are 49.7 kDa and 37.9 kDa, respectively.

**Application Notes:** This protein is useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

**HDAC Activity Assay Conditions:** 3 µM H3K9ac peptide was incubated with different concentrations of HDAC3 / NCOR2 Complex, His-tag in reaction buffer including 25 mM Tris-HCl pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl<sub>2</sub>, 0.1 mg/ml BSA for 30 minutes at 37°C. HTRF assay was used for activity 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.

### HDAC3 / NCOR2 Complex



### Recombinant HDAC3 / NCOR2 complex, His-tag

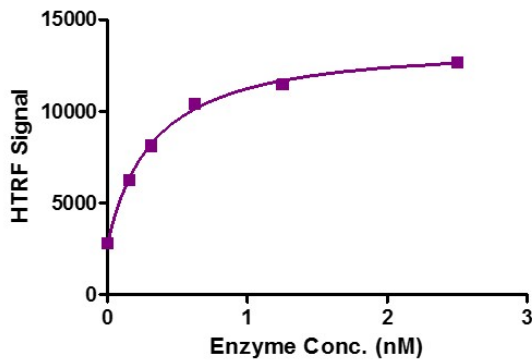
12% SDS-PAGE Coomassie staining

MW: HDAC3: 49.7 kDa

MW: NCOR2: 37.9 kDa

Purity: > 85%

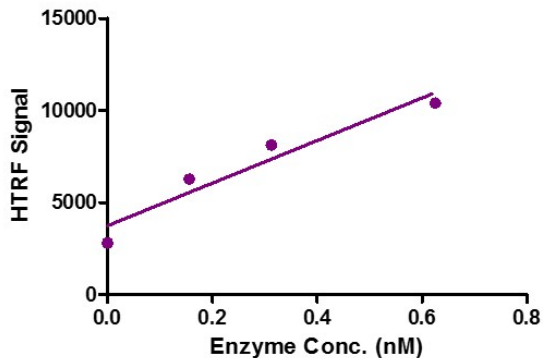
### HDAC3/NCOR2 Complex Titration



### HTRF assay for HDAC3 / NCOR2 Complex, His-tag activity

3  $\mu$ M histone H3K9ac peptide was incubated with different concentrations of HDAC3 / NCOR2 Complex, His-tag in reaction buffer for 30 minutes at 37°C. H3K9me0-Eu antibody was used to detect the reaction products.

### HDAC3/NCOR2 Complex Titration



### HTRF assay for HDAC3 / NCOR2 Complex, His-tag activity

3  $\mu$ M histone H3K9ac peptide was incubated with different concentrations of HDAC3 / NCOR2 Complex, His-tag in reaction buffer for 30 minutes at 37°C. H3K9me0-Eu antibody was used to detect the reaction products.