PRODUCT INFORMATION

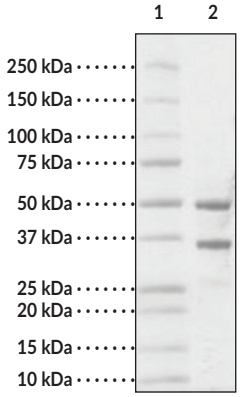
HDAC3/NCOR2 (human, recombinant)

Item No. 10009232

Overview and Properties

Synonyms:	Histone Deacetylase 3/Nuclear Receptor Corepressor 2
Source:	50 µg of a complex of full-length recombinant C-terminal His-tagged HDAC3 and recombinant N-terminal GST-tagged NCOR2 amino acids 395-489, co-expressed in baculovirus expression system
Amino Acids:	HDAC3 = 2-428 (full length), NCOR2 = 395-489 (truncation)
Molecular Weight:	49.7 kDa (HDAC3)/37.6 kDa (NCOR2)
Storage:	-80°C (as supplied)
Stability:	≥6 months
Purity:	***batch specific*** **(**≥90% estimated by SDS-PAGE)
Supplied in:	40 mM Tris-HCl, pH 8.0, with 110 mM sodium chloride, 2.2 mM potassium chloride, 250 mM imidazole, and 20% glycerol
Protein Concentration:	***batch specific*** mg/ml
Specific Activity:	***batch specific*** U/mg
Unit Definition:	One unit is the amount of enzyme required to release 1 pmol of acetate per minute at 37°C in 25 mM Tris/HCl, pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM $MgCl_2$, 0.1 mg/ml BSA, and 20 µM fluorogenic HDAC substrate 3

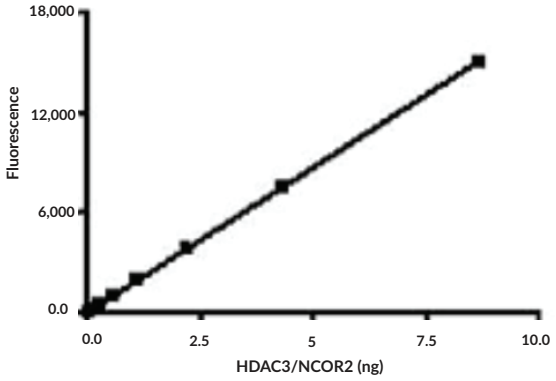
Images



Lane 1: MW Markers
Lane 2: HDAC3/NCOR2 (4 µg)

Complex of human HDAC3: C-terminal His-tag HDAC3, MW=50 kDa, and human NCOR2 with N-terminal GST tag, MW=38 kDa.

Representative gel image shown; actual purity may vary between each batch.



HDAC3/NCOR2 Deacetylase Activity

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PRODUCT INFORMATION

Description

Histone deacetylases (HDACs) catalyze the deacetylation of core histones, resulting in tightening of nucleosomal integrity, restriction of the access of transcription factors, and suppression of transcription. HDACs also play an important role in mediating nuclear receptor functions by forming co-repressor complexes with nuclear receptors in the absence of ligands. They are also involved in mediating other transcription regulatory pathways by associating with transcription factors, such as E2F, TFIIE, TFIIF, NF-κB, p300, Stat3, p53, and the retinoblastoma (Rb) protein.[1]

HDAC3 is a Class I HDAC which is related to the yeast HDAC Rpd3.[2] It is primarily localized to the nucleus with ubiquitous distribution throughout human cell lines and tissues. By modifying chromatin structure and other non-histone proteins, HDACs play important roles in controlling complex biological events, including cell development, differentiation, programmed cell death, angiogenesis, and inflammation. Considering these major roles, it is conceivable that dysregulation of HDACs and subsequent imbalance of acetylation and deacetylation may be involved in the pathogenesis of various diseases, including cancer and inflammatory diseases.[2]

References

1. Lin, H.-Y., Chen, C.-S., Lin, S.-P., *et al.* Targeting histone deacetylase in cancer therapy. *Medicinal Research Reviews* **26(4)**, 397-413 (2006).
2. Huang, L. Targeting histone deacetylases for the treatment of cancer and inflammatory diseases. *J. Cell. Physiol.* **39.1**, 611-616 (2006).

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