

PRODUCT INFORMATION



SIRT2 (human, recombinant)

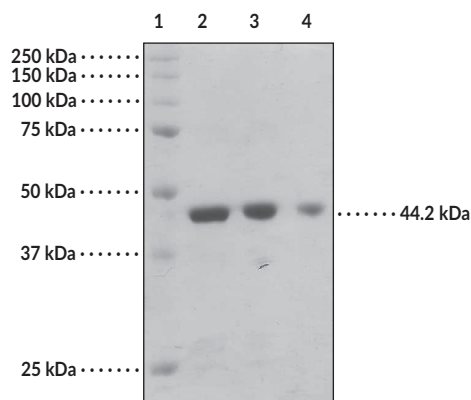
Item No. 10011191

Overview and Properties

Synonyms:	NAD-dependent Deacetylase 2, Silent Information Regulator 2, SIR2L2, SIR2-like Protein 2, Sirtuin 2
Source:	Active recombinant N-terminal hexahistidine-tagged enzyme amino acids 2-389, expressed in <i>E. coli</i>
Uniprot No.:	Q8IXJ6
Molecular Weight:	44.2 kDa
Storage:	-80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	50 mM sodium phosphate, pH 7.2, with 100 mM sodium chloride and 20% glycerol
Protein Concentration:	<i>batch specific</i> mg/ml
Activity:	<i>batch specific</i> U/ml
Specific Activity:	<i>batch specific</i> U/mg
Unit Definition:	One unit is defined as the amount of enzyme required to produce 1 nmol of 7-amino-4-methylcouarin per minute at 25°C in 50 mM Tris-HCl, pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl ₂ , containing 125 μM p53 amino acids 317-320 (Gln-Pro-Lys-Lys(e-acetyl)-AMC), and 6 mM NAD ⁺

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

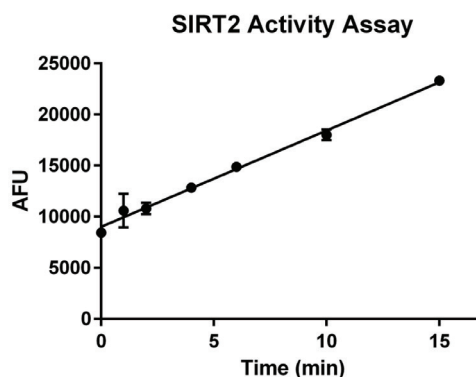
Images



Lane 1: MW Markers
Lane 2: SIRT2 (5 μg)
Lane 3: SIRT2 (2.5 μg)
Lane 4: SIRT2 (1.25 μg)

SDS-PAGE Analysis of SIRT2.

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



WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

The sirtuins represent a distinct class of trichostatin A-insensitive lysyl-deacetylases (class III HDACs) and have been shown to catalyze a reaction that couples lysine deacetylation to the formation of nicotinamide and O-acetyl-ADP-ribose from NAD⁺ and the abstracted acetyl group.¹⁻³ There are seven human sirtuins, which have been designated SIRT1-7.⁴ SIRT2 is a cytoplasmic protein responsible for the deacetylation of histone H4 and α -tubulin, a modification important for controlling the cell cycle. Specifically, SIRT2 co-localizes with HDAC6 and microtubules and functions as a mitotic checkpoint in preventing chromosomal instability that can lead to hyperploid cells. SIRT2 is found in many tissues, but is specifically enriched in skeletal muscle, the heart, and in oligodendroglia cells in the brain.^{5,6}

References

1. Imai, S.-I., Armstrong, C.M., Kaeberlein, M., *et al.* Transcriptional silencing and longevity protein Sir2 is an NAD-dependent histone deacetylase. *Nature* **403**, 795-800 (2000).
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3. Tanny, J.C. and Moazed, D. Coupling of histone deacetylation to NAD breakdown by the yeast silencing protein Sir2: Evidence for acetyl transfer from substrate to an NAD breakdown product. *Proc. Natl. Acad. Sci. USA* **98(2)**, 415-420 (2001).
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5. Dali-Youcef, N., Lagouge, M., Froelich, S., *et al.* Sirtuins: The 'magnificent seven', function, metabolism and longevity. *Annals of Medicine* **39**, 335-345 (2007).
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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM