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Produktinformation



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PRODUCT INFORMATION



SIRT1 (human, recombinant)

Item No. 10011190

Overview and Properties

Synonyms: NAD-dependent Deacetylase 1, Silent Information Regulator 2, SIR2L1, SIR2-like Protein 1, Sirtuin 1

Source: Recombinant N-terminal GST-tagged protein expressed in *E. coli*

Amino Acids: 193-747

Uniprot No.: Q96EB6

Molecular Weight: 89.2 kDa

Storage: -80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein

Stability: ≥1 year

Purity: ≥70% estimated by SDS-PAGE

Supplied in: 50 mM sodium phosphate, pH 7.2, with 100 mM sodium chloride and 20% glycerol

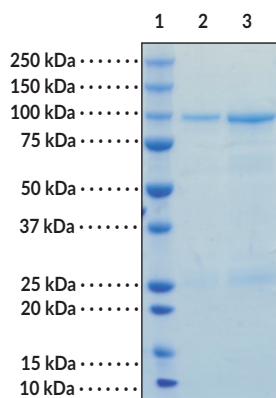
Protein Concentration: *batch specific* mg/ml

Activity: *batch specific* U/ml

Specific Activity: *batch specific* U/mg

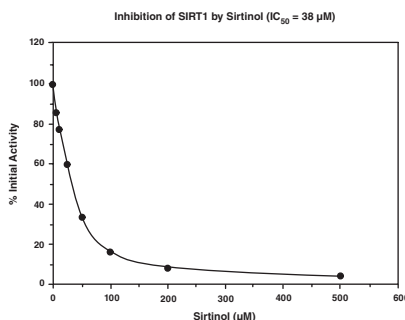
Unit Definition: One unit is defined as the amount of enzyme required to produce 1 pmole of 7-amino-4-methylcoumarin per minute at 25°C in 50 mM Tris-HCl, pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl₂, containing 125 μM p53 peptide amino acids 379-382 (Arg-His-Lys-Lys (e-acetyl)-AMC), and 3 mM NAD⁺.

Images

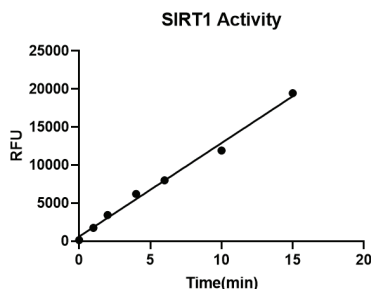


Lane 1: MW Markers
Lane 2: SIRT1 (2 μg)
Lane 3: SIRT1 (4 μg)

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



Inhibition of SIRT1 (human recombinant) (Item No. 10010401) by sirtinol (IC₅₀ = 38 μM). Image from Cayman's SIRT1 Direct Fluorescent Screening Assay Kit (Item No. 10010401).



SIRT1 activity was determined using Cayman's SIRT1 Direct Fluorescent Screening Assay Kit (Item No. 10010401).

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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PRODUCT INFORMATION



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 SIRT1, which is located in the nucleus, is the human sirtuin with the greatest homology to yeast Sir2 (Silent information regulator 2), regulates the activity of the tumor suppressor p53 and inhibits apoptosis.⁵⁻⁷

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).
2. Tanner, K.G., Landry, J., Sternglanz, R., *et al.* Silent information regulator 2 family of NAD-dependent histone/protein deacetylases generates a unique product, 1-O-acetyl-ADP-ribose. *Proc. Natl. Acad. Sci. USA* **97(26)**, 14178-14182 (2000).
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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6. Vaziri, H., Dessain, S.K., Eaton, E.N., *et al.* hSIR2/SIRT1 functions as an NAD-dependent p53 deacetylase. *Cell* **107**, 149-159 (2001).
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