

PRODUCT INFORMATION



SIRT4 (human recombinant)

Item No. 10317

Overview and Properties

Synonyms: NAD-dependent ADP-ribosyltransferase Sirtuin 4, Silent Information Regulator 4, SIR2L4, SIR2-like Protein 4, Sirtuin 4

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

Amino Acids: 1-314 (full-length)

Uniprot No.: Q9Y6E7

Molecular Weight: 61.9 kDa

Storage: -80°C (as supplied)

Stability: ≥9 months

Purity: ≥95% estimated by SDS-PAGE

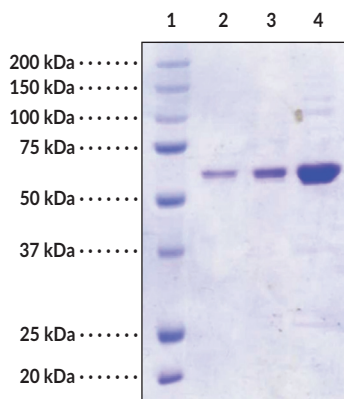
Supplied in: *batch specific*

Endotoxin Testing: < 1.0 EU/μg, determined by the LAL endotoxin assay

Protein Concentration: *batch specific* mg/ml

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

Image



Lane 1: MW Markers
Lane 2: SIRT4 (1 μg)
Lane 3: SIRT4 (2 μg)
Lane 4: SIRT4 (5 μg)

Representative gel image shown; actual purity may vary between each batch but protein will be ≥95% pure.

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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Description

There are seven human sirtuins, also known as class III HDACs, which have been designated SIRT1-SIRT7. Each is involved in various post-translational modifications by utilizing NAD dependent deacetylase and ADP-ribosyltransferase activities. SIRT4 is a mitochondrial ADP-ribosyltransferase responsible for the transfer of ADP-ribose from NAD to specific substrates such as glutamate dehydrogenase (GDH).¹ In caloric-sufficient conditions, SIRT4 ADP-ribosylates GDH, repressing its activity and correspondingly decreasing insulin secretion.² There is some uncertainty about the relevance of sirtuin ribosyl transferase activity due to its very slow rate, which is about 500 times lower than the corresponding deacetylation reaction (for those that have been characterized).³ SIRT4 is found in many tissues, but is specifically enriched in the kidney, heart, brain, and liver.²

References

1. Ahuja, N., Schwer, B., Carobbio, S., *et al.* Regulation of insulin secretion by SIRT4, a mitochondrial ADP-ribosyltransferase. *J. Biol. Chem.* **282(46)**, 33583-33592 (2007).
2. Haigis, M.C., Mostoslavsky, R., Haigis, K.M., *et al.* SIRT4 inhibits glutamate dehydrogenase and opposes the effects of calorie restriction in pancreatic β cells. *Cell* **126(5)**, 941-954 (2006).
3. Du, J., Jiang, H., and Lin, H. Investigating the ADP-ribosyltransferase activity of sirtuins with NAD analogues and ³²P-NAD. *Biochemistry* **48(13)**, 2878-2890 (2009).

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