

## Active Recombinant Human SIRT1 Protein, His tagged

**Cat. No.** SIRT1-658H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>Product Overview</b> | SIRT1 Protein, Human (His) is the recombinant human-derived SIRT1 protein, expressed by E.coli, with N-6*His labeled tag.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>ProteinLength</b>    | 2-747 aa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Description</b>      | <p>SIRT1, a NAD-dependent protein deacetylase, orchestrates the integration of various cellular functions, including cell cycle progression, response to DNA damage, metabolism, apoptosis, and autophagy, by modulating the acetylation status of numerous target proteins. Functioning as a sensor of the NAD(+)/NADH ratio, SIRT1 responds to changes in cellular energetics induced by factors such as glucose deprivation and caloric restriction. Its wide-ranging impact encompasses chromatin remodeling through histone deacetylation, ultimately leading to transcriptional regulation. SIRT1 engages in diverse interactions, deacetylating transcription factors, coregulators, and histones, thereby exerting both positive and negative regulation on target gene expression. Additionally, SIRT1 is implicated in critical processes such as DNA damage response, autophagy, circadian rhythm regulation, and metabolic homeostasis. Its multifaceted roles extend to the regulation of various cellular pathways and the maintenance of genomic integrity, highlighting its significance in cellular physiology and stress response.</p> |

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|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>           | Lyophilized powder. Lyophilized from a 0.22 µm filtered solution of 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0 or PBS, pH 7.4, 8% trehalose.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Bio-activity</b>   | Measured by its ability to remove the acetyl group from a fluorogenic peptide substrate Ac-RGK(Ac)-AMC in a coupled assay that incubate at room temperature in mode for 45 minutes. The specific activity is >15 pmol/min/µg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Molecular Mass</b> | Approximately 96 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>AASequence</b>     | <p>ADEAALALQPGGSPSAAGADREAASSPAGEPLRKPRRDGPGLERSPGEPGGAAP<br/> EREVPAAARGCPGAAAAALWREAEAEAAAAGGEQEAQATAAAGEGDNGPGLQGP<br/> SREPPLADNLYDEDDDDDEGEEEEEEAAAAAIGYRDNLLFGDEIITNGFHSCESDEEDR<br/> ASHASSSDWTPRPRIGPYTFVQQHLMIGTDPRTILKDLLPETIPPELDDMTLWQIVIN<br/> ILSEPPKRKKRKDINTIEDAVKLLQECKKIIVLTGAGVSVSCGIPDFRSRDGIYARLAVD<br/> FPDLDPQAMFDIEYFRKDPRPFFKFAKEIYPGQFQPSLCHKFIALSDKEGKLLRNYT<br/> QNIDTLEQVAGIQRIIQCHGSFATASCLICKYKVDCEAVRGDIFNQVPRCPRCPADE<br/> PLAIMKPEIVFFGENLPEQFHRAMKYDKDEVDLLIVIGSSLKVRPVALIPSSIPHEVPQI<br/> LINREPLPHLHFDVELLGDCDVIINELCHRLGGGEYAKLCCNPVKLSEITEKPPRTQKEL<br/> AYLSELPTPLHVSEDSSSPERTSPPDSSVIVTLLDQAAKSNDLDVSESKGCMEEK<br/> PQEVQTSRNVESIAEQMENPDLKNVGSSTGEKNERTSVAGTVRKCWPNRVAKEQI<br/> SRRLDGNQYLFLPPNRYIFHGAEVYSDSEDDVLSSSSCGSNSDSGTCQSPSLEPM<br/> EDESEIEEFYNGLEDEPDVPERAGGAGFGTDGDDQEAINAISVKQEVTDMMYPSN<br/> KS</p> |
| <b>Endotoxin</b>      | < 1 EU/µg by LAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Purity</b>         | > 90% as determined by reducing SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Storage</b>        | Stored at -20 centigrade for 2 years from date of receipt. After reconstitution, it is stable at 4 centigrade for 1 week or -20 centigrade for longer (with carrier protein). It                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

is recommended to freeze aliquots at -20 or -80 centigrade for extended storage.

**Reconstitution**

It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH<sub>2</sub>O.

## GENE INFORMATION

**Gene Name** [SIRT1 sirtuin 1 \[ Homo sapiens \(human\) \]](#)

**Official Symbol** [SIRT1](#)

**Synonyms** SIRT1; sirtuin 1; sirtuin (silent mating type information regulation 2 homolog) 1 (S. cerevisiae) , sirtuin (silent mating type information regulation 2, S. cerevisiae, homolog) 1; NAD-dependent deacetylase sirtuin-1; SIR2L1; hSIR2; hSIRT1; SIR2alpha; sir2-like 1; sirtuin type 1; SIR2-like protein 1

**Gene ID** [23411](#)

**mRNA Refseq** [NM\\_001142498](#)

**Protein Refseq** [NP\\_001135970](#)

**MIM** [604479](#)

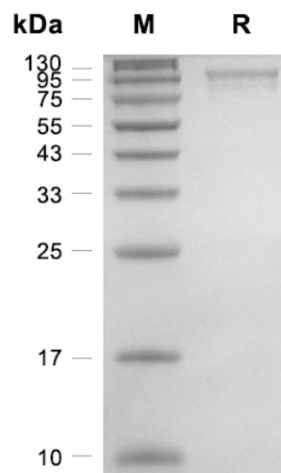
**UniProt ID** [Q96EB6](#)

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Purity



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