

SIRT1 Protein, Human (746a.a, His)

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| Cat. No.: | HY-P71596 |
| Synonyms: | 75SirT1; hSIR2; hSIRT1; HST2; SIR2; SIR2 like 1; SIR2 like protein 1; SIR2, S.cerevisiae, homolog-like 1; SIR2-like protein 1; SIR2ALPHA; SIR2L1; Sirt1 |
| Species: | Human |
| Source: | E. coli |
| Accession: | Q96EB6 (2A-747S) |
| Gene ID: | 23411 |
| Molecular Weight: | Approximately 90 kDa |

PROPERTIES

AA Sequence

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A D E A A L A L Q P   G G S P S A A G A D   R E A A S S P A G E   P L R K R P R R D G
P G L E R S P G E P   G G A A P E R E V P   A A A R G C P G A A   A A A L W R E A E A
E A A A A G G E Q E   A Q A T A A A G E G   D N G P G L Q G P S   R E P P L A D N L Y
D E D D D D E G E E   E E E A A A A A I G   Y R D N L L F G D E   I I T N G F H S C E
S D E E D R A S H A   S S S D W T P R P R   I G P Y T F V Q Q H   L M I G T D P R T I
L K D L L P E T I P   P P E L D D M T L W   Q I V I N I L S E P   P K R K K R K D I N
T I E D A V K L L Q   E C K K I I V L T G   A G V S V S C G I P   D F R S R D G I Y A
R L A V D F P D L P   D P Q A M F D I E Y   F R K D P R P F F K   F A K E I Y P G Q F
Q P S L C H K F I A   L S D K E G K L L R   N Y T Q N I D T L E   Q V A G I Q R I I Q
C H G S F A T A S C   L I C K Y K V D C E   A V R G D I F N Q V   V P R C P R C P A D
E P L A I M K P E I   V F F G E N L P E Q   F H R A M K Y D K D   E V D L L I V I G S
S L K V R P V A L I   P S S I P H E V P Q   I L I N R E P L P H   L H F D V E L L G D
C D V I I N E L C H   R L G G E Y A K L C   C N P V K L S E I T   E K P P R T Q K E L
A Y L S E L P P T P   L H V S E D S S S P   E R T S P P D S S V   I V T L L D Q A A K
S N D D L D V S E S   K G C M E E K P Q E   V Q T S R N V E S I   A E Q M E N P D L K
N V G S S T G E K N   E R T S V A G T V R   K C W P N R V A K E   Q I S R R L D G N Q
Y L F L P P N R Y I   F H G A E V Y S D S   E D D V L S S S S C   G S N S D S G T C Q
S P S L E E P M E D   E S E I E E F Y N G   L E D E P D V P E R   A G G A G F G T D G
D D Q E A I N E A I   S V K Q E V T D M N   Y P S N K S

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| Biological Activity | The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet. |
| Appearance | Lyophilized powder. |
| Formulation | Lyophilized after extensive dialysis against solution in 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0 |
| Endotoxin Level | <1 EU/μg, determined by LAL method. |
| Reconstitution | It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. |
| Storage & Stability | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is |

recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

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.

Caution: Product has not been fully validated for medical applications. For research use only.

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