

## Sirtuin 3 (SIRT3) Active Protein | SIRT3 active protein

Active Sirtuin 3 (SIRT3)

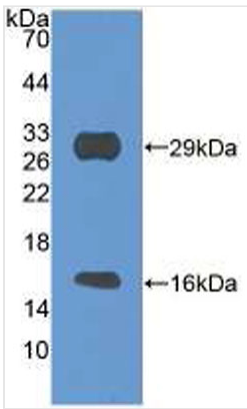
|                               |                        |                                           |                                                     |
|-------------------------------|------------------------|-------------------------------------------|-----------------------------------------------------|
| CATALOG #<br><b>AAA148211</b> | HOST<br><b>E. coli</b> | REACTIVITY<br><b>Mus musculus (Mouse)</b> | APPLICATIONS<br><b>Activity Assay, Cell Culture</b> |
|-------------------------------|------------------------|-------------------------------------------|-----------------------------------------------------|

### PRODUCT SYNONYMS

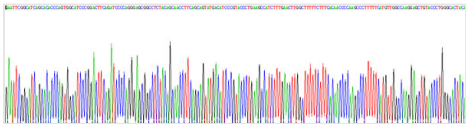
Sirtuin 3 (SIRT3); Active Sirtuin 3 (SIRT3); SIR2L3; Silent Mating Type Information Regulation 2 Homolog 3; NAD-dependent protein deacetylase sirtuin-3; mitochondrial; SIR2-like protein 3; Regulatory protein SIR2 homolog 3; SIRT3 active protein

### PRODUCT SPECIFICATIONS

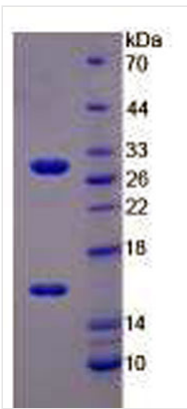
|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                                             | E. coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Reactivity                                       | Mus musculus (Mouse)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Purity/Purification                              | >92%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Form/Format                                      | 100mM NaHCO <sub>3</sub> , 500mM NaCl, pH8.3, containing 0.01% SKL, 5% Trehalose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Applicable Applications for SIRT3 active protein | Activity Assay, Cell Culture                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Source                                           | Prokaryotic expression.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Residues                                         | Gly5~Arg257                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Tags                                             | N-terminal His-tag                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Endotoxin Level                                  | <1.0EU per 1ug (determined by the LAL method)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Predicted Isoelectric Point                      | 6.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Phenomenon Explanation                           | <p>The possible reasons that the actual band size differs from the predicted are as follows:</p> <ol style="list-style-type: none"> <li>1. Splice variants: Alternative splicing may create different sized proteins from the same gene.</li> <li>2. Relative charge: The composition of amino acids may affects the charge of the protein.</li> <li>3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.</li> <li>4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.</li> <li>5. Polymerization of the target protein: Dimerization, multimerization etc.</li> </ol> |
| Usage                                            | Reconstitute in ddH <sub>2</sub> O to a concentration of 0.1-1.0 mg/mL. Do not vortex.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Preparation and Storage                          | <p><b>Storage:</b></p> <p>Avoid repeated freeze/thaw cycles.</p> <p>Store at 2-8 degree C for one month.</p> <p>Aliquot and store at -80 degree C for 12 months.</p> <p><b>Stability Test:</b></p> <p>The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37 degree C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.</p>                                                                                                                      |



WB (Western Blot)  
Sample: Recombinant SIRT3, Mouse;Antibody: Rabbit Anti-Mouse SIRT3 Ab



Gene Sequencing  
Gene Sequencing (extract)



SDS\_PAGE  
Sample: Active recombinant SIRT3, Mouse

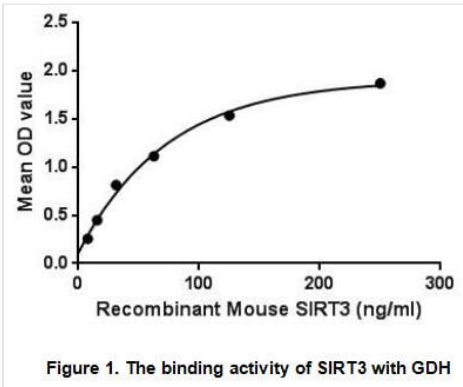


Figure 1. The binding activity of SIRT3 with GDH

**Bioactivity**  
Sirtuin 3 (SIRT3) also known as NAD-dependent deacetylase sirtuin-3 is a member of the mammalian sirtuin family of proteins. SIRT3 is a soluble protein located in the mitochondrial matrix, and contains a mitochondrial processing peptide at the N-terminus. It is a key regulator of succinate dehydrogenase (SDH), which catalyzes the oxidation of succinate to fumarate. Increased succinate concentrations and the specific G protein-coupled receptor 91 (GPR91) are involved in the activation of hepatic stellate cells (HSCs). SIRT3 agonists could help treat metabolic disorders such as obesity, metabolic syndrome and type 2 diabetes. Besides, Dihydrolipoyl Transacetylase (DLAT) has been identified as an interactor of SIRT3, thus a binding ELISA assay was conducted to detect the interaction of recombinant mouse SIRT3 and recombinant mouse DLAT. Briefly, SIRT3 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to DLAT-coated microtiter wells and incubated for 2h at 37 degree C. Wells were washed with PBST and incubated for 1h with anti-SIRT3 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 degree C. Finally, add 50uL stop solution to the wells and read at 450nm immediately. The binding activity of SIRT3 and DLAT was shown in Figure 1, and this effect was in a dose dependent manner.

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      GISTPS  GIPDFRSPGS  GLYSNLQQVD  IPYPEATFEL  GFFHHNPKPF
FMLAKELYPG  HYRPNVTHYF  LRLLDHKELL  LRLYTONIDG  LERASGIPAS
KLVEAHGTFF  TATCTVCRRS  FPGEDIWADV  MADRVPRCPV  CTGVVKPDIV
FFGEOLPARF  LLHMADFALA  DLLLILGTSL  EVEPFASLSE  AVOKSVPRLL
INRDLVGFVF  LSPRRKDVVQ  LGDVVHGVGR  LVDLLGWTQE  LLDLMQRERG
KLDGQDR

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Sequence

ADDITIONAL INFORMATION

Product Categories/Family for SIRT3  
active protein

Signal Transduction

NCBI AND UNIPROT INFORMATION

NCBI GI #

188219522

|                                  |                                                                                                                         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| NCBI GeneID                      | 64384                                                                                                                   |
| NCBI Accession #                 | NP_001120823.1                                                                                                          |
| NCBI GenBank Nucleotide #        | NM_001127351.1                                                                                                          |
| UniProt Accession #              | Q8R104; Q9EPA8; B9W0A9; C6ZII7                                                                                          |
| Molecular Weight                 | Predicted Molecular Mass: 32.2kDa<br>Accurate Molecular Mass: 16 & 29kDa as determined by SDS-PAGE reducing conditions. |
| NCBI Official Full Name          | NAD-dependent protein deacetylase sirtuin-3 isoform 1                                                                   |
| NCBI Official Synonym Full Names | sirtuin 3                                                                                                               |
| NCBI Official Symbol             | Sirt3                                                                                                                   |
| NCBI Official Synonym Symbols    | Sir2l3; AI848213; 2310003L23Rik                                                                                         |
| NCBI Protein Information         | NAD-dependent protein deacetylase sirtuin-3                                                                             |
| UniProt Protein Name             | NAD-dependent protein deacetylase sirtuin-3                                                                             |
| UniProt Gene Name                | <b>Sirt3</b>                                                                                                            |
| UniProt Synonym Gene Names       | Sir2l3; mSIR2L3                                                                                                         |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-mouse-mus-musculus-active-protein/sirtuin-3-sirt3/148211>