

**SIR3 Antibody - N-terminal region**  
**Rabbit Polyclonal Antibody**  
**Catalog # AI16126****Specification**

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**SIR3 Antibody - N-terminal region - Product Information**

Application	<b>WB</b>
Primary Accession	<a href="#">O9NTG7</a>
Other Accession	<a href="#">NP_036371</a>
Reactivity	<b>Human</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Calculated MW	<b>43kDa KDa</b>

**SIR3 Antibody - N-terminal region - Additional Information****Gene ID** 23410**Alias Symbol** **SIRT3, SIR2L3,****Other Names**

NAD-dependent protein deacetylase sirtuin-3, mitochondrial, hSIRT3, 3.5.1.-, Regulatory protein SIR2 homolog 3, SIR2-like protein 3, SIRT3, SIR2L3

**Format**

Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.

**Reconstitution & Storage**Add 50  $\mu$ l of distilled water. Final Anti-SIR3 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at -20°C. Avoid repeat freeze-thaw cycles.**Precautions**

SIR3 Antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

**SIR3 Antibody - N-terminal region - Protein Information****Name** SIRT3 {ECO:0000303|PubMed:12186850, ECO:0000312|HGNC:HGNC:14931}**Function**

NAD-dependent protein deacetylase (PubMed:&lt;a href="http://www.uniprot.org/citations/12186850" target="\_blank"&gt;12186850&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/12374852" target="\_blank"&gt;12374852&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/16788062" target="\_blank"&gt;16788062&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/18680753" target="\_blank"&gt;18680753&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/18794531" target="\_blank"&gt;18794531&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/19535340" target="\_blank"&gt;19535340&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/23283301" target="\_blank"&gt;23283301&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/24121500" target="\_blank"&gt;24121500&lt;/a&gt;, PubMed:&lt;a

<http://www.uniprot.org/citations/24252090> target="\_blank">24252090</a>). Activates or deactivates mitochondrial target proteins by deacetylating key lysine residues (PubMed:<a href="http://www.uniprot.org/citations/12186850" target="\_blank">12186850</a>, PubMed:<a href="http://www.uniprot.org/citations/12374852" target="\_blank">12374852</a>, PubMed:<a href="http://www.uniprot.org/citations/16788062" target="\_blank">16788062</a>, PubMed:<a href="http://www.uniprot.org/citations/18680753" target="\_blank">18680753</a>, PubMed:<a href="http://www.uniprot.org/citations/18794531" target="\_blank">18794531</a>, PubMed:<a href="http://www.uniprot.org/citations/23283301" target="\_blank">23283301</a>, PubMed:<a href="http://www.uniprot.org/citations/24121500" target="\_blank">24121500</a>, PubMed:<a href="http://www.uniprot.org/citations/24252090" target="\_blank">24252090</a>, PubMed:<a href="http://www.uniprot.org/citations/38146092" target="\_blank">38146092</a>). Known targets include ACSS1, IDH, GDH, SOD2, PDHA1, LCAD, SDHA, MRPL12 and the ATP synthase subunit ATP5PO (PubMed:<a href="http://www.uniprot.org/citations/16788062" target="\_blank">16788062</a>, PubMed:<a href="http://www.uniprot.org/citations/18680753" target="\_blank">18680753</a>, PubMed:<a href="http://www.uniprot.org/citations/19535340" target="\_blank">19535340</a>, PubMed:<a href="http://www.uniprot.org/citations/24121500" target="\_blank">24121500</a>, PubMed:<a href="http://www.uniprot.org/citations/24252090" target="\_blank">24252090</a>, PubMed:<a href="http://www.uniprot.org/citations/38146092" target="\_blank">38146092</a>). Contributes to the regulation of the cellular energy metabolism (PubMed:<a href="http://www.uniprot.org/citations/24252090" target="\_blank">24252090</a>). Important for regulating tissue-specific ATP levels (PubMed:<a href="http://www.uniprot.org/citations/18794531" target="\_blank">18794531</a>). In response to metabolic stress, deacetylates transcription factor FOXO3 and recruits FOXO3 and mitochondrial RNA polymerase POLRMT to mtDNA to promote mtDNA transcription (PubMed:<a href="http://www.uniprot.org/citations/23283301" target="\_blank">23283301</a>). Acts as a regulator of ceramide metabolism by mediating deacetylation of ceramide synthases CERS1, CERS2 and CERS6, thereby increasing their activity and promoting mitochondrial ceramide accumulation (By similarity). Regulates hepatic lipogenesis (By similarity). Uses NAD(+) substrate imported by SLC25A47, triggering downstream activation of PRKAA1/AMPK- alpha signaling cascade that ultimately downregulates sterol regulatory element-binding protein (SREBP) transcriptional activities and ATP- consuming lipogenesis to restore cellular energy balance (By similarity). In addition to protein deacetylase activity, also acts as a protein-lysine deacylase by mediating delactylation of proteins, such as CCNE2 and 'Lys-16' of histone H4 (H4K16la) (PubMed:<a href="http://www.uniprot.org/citations/36896611" target="\_blank">36896611</a>, PubMed:<a href="http://www.uniprot.org/citations/37720100" target="\_blank">37720100</a>).

#### Cellular Location

Mitochondrion matrix

#### Tissue Location

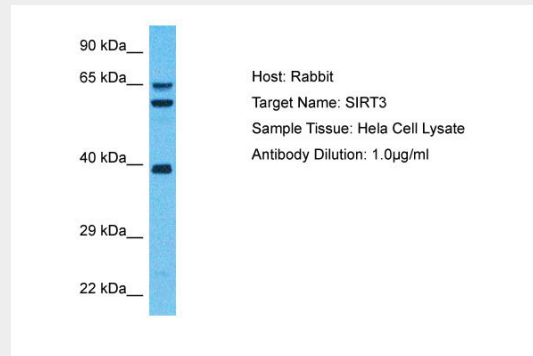
Widely expressed.

### SIR3 Antibody - N-terminal region - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### SIR3 Antibody - N-terminal region - Images



Host: Rabbit  
Target Name: SIR3  
Sample Tissue: Hela Whole Cell lysates  
Antibody Dilution: 1.0µg/ml

### **SIR3 Antibody - N-terminal region - Background**

NAD-dependent protein deacetylase. Activates or deactivates mitochondrial target proteins by deacetylating key lysine residues. Known targets include ACSS1, IDH, GDH, SOD2, PDHA1, LCAD, SDHA and the ATP synthase subunit ATP5O. Contributes to the regulation of the cellular energy metabolism. Important for regulating tissue-specific ATP levels.

### **SIR3 Antibody - N-terminal region - References**

- Frye R.A., et al. *Biochem. Biophys. Res. Commun.* 260:273-279(1999).  
Ota T., et al. *Nat. Genet.* 36:40-45(2004).  
Taylor T.D., et al. *Nature* 440:497-500(2006).  
Bechtel S., et al. *BMC Genomics* 8:399-399(2007).  
Schwer B., et al. *J. Cell Biol.* 158:647-657(2002).