

**SIRT3 Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP6242a****Specification**

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**SIRT3 Antibody (C-term) Blocking Peptide - Product Information**Primary Accession [Q9NTG7](#)**SIRT3 Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 23410**Other Names**

NAD-dependent protein deacetylase sirtuin-3, mitochondrial, hSIRT3, 351-, Regulatory protein SIR2 homolog 3, SIR2-like protein 3, SIRT3, SIR2L3

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP6242a](#) was selected from the C-term region of human SIRT3. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**SIRT3 Antibody (C-term) Blocking Peptide - Protein Information****Name** SIRT3**Synonyms** SIR2L3**Function**

NAD-dependent protein deacetylase (PubMed:[12186850](http://www.uniprot.org/citations/12186850), PubMed:[12374852](http://www.uniprot.org/citations/12374852), PubMed:[16788062](http://www.uniprot.org/citations/16788062), PubMed:[18680753](http://www.uniprot.org/citations/18680753), PubMed:[18794531](http://www.uniprot.org/citations/18794531), PubMed:[23283301](http://www.uniprot.org/citations/23283301), PubMed:[24121500](http://www.uniprot.org/citations/24121500), PubMed:[24252090](http://www.uniprot.org/citations/24252090), PubMed:[19535340](http://www.uniprot.org/citations/19535340)). 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>). Known targets include ACSS1, IDH, GDH, SOD2, PDHA1, LCAD, SDHA 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/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/19535340" target="\_blank">19535340</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. 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.

#### Cellular Location

Mitochondrion matrix

#### Tissue Location

Widely expressed.

### SIRT3 Antibody (C-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

### SIRT3 Antibody (C-term) Blocking Peptide - Images

### SIRT3 Antibody (C-term) Blocking Peptide - Background

SIRT3 is a member of the sirtuin family of proteins, homologs to the yeast Sir2 protein. Members of the sirtuin family are characterized by a sirtuin core domain and grouped into four classes. The functions of human sirtuins have not yet been determined; however, yeast sirtuin proteins are known to regulate epigenetic gene silencing and suppress recombination of rDNA. Studies suggest that the human sirtuins may function as intracellular regulatory proteins with mono-ADP-ribosyltransferase activity. The SIRT3 is included in class I of the sirtuin family.

### SIRT3 Antibody (C-term) Blocking Peptide - References

Onyango, P., et al., Proc. Natl. Acad. Sci. U.S.A. 99(21):13653-13658 (2002). Schwer, B., et al., J. Cell Biol. 158(4):647-657 (2002). Frye, R.A., Biochem. Biophys. Res. Commun. 273(2):793-798

(2000).Frye, R.A., Biochem. Biophys. Res. Commun. 260(1):273-279 (1999).

**SIRT3 Antibody (C-term) Blocking Peptide - Citations**

- [Mitochondrial SIRT3 and its target glutamate dehydrogenase are altered in follicular cells of women with reduced ovarian reserve or advanced maternal age.](#)
- [SIRT3 is a stress-responsive deacetylase in cardiomyocytes that protects cells from stress-mediated cell death by deacetylation of Ku70.](#)