

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

SIRT3 Antibody (C-term) Blocking Peptide - Product InformationPrimary 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 [BP6242a](#) 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 {ECO:0000303|PubMed:12186850, ECO:0000312|HGNC:HGNC:14931}**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:[19535340](http://www.uniprot.org/citations/19535340), PubMed:[23283301](http://www.uniprot.org/citations/23283301), PubMed:[24121500](http://www.uniprot.org/citations/24121500), PubMed:[24252090](http://www.uniprot.org/citations/24252090)). Activates or deactivates mitochondrial target proteins by deacetylating key lysine residues (PubMed:[12186850](http://www.uniprot.org/citations/12186850), PubMed:[12186850](http://www.uniprot.org/citations/12186850), PubMed:[12186850](http://www.uniprot.org/citations/12186850)).

[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: [38146092](http://www.uniprot.org/citations/38146092)). Known targets include ACSS1, IDH, GDH, SOD2, PDHA1, LCAD, SDHA, MRPL12 and the ATP synthase subunit ATP5PO (PubMed: [16788062](http://www.uniprot.org/citations/16788062), PubMed: [18680753](http://www.uniprot.org/citations/18680753), PubMed: [19535340](http://www.uniprot.org/citations/19535340), PubMed: [24121500](http://www.uniprot.org/citations/24121500), PubMed: [24252090](http://www.uniprot.org/citations/24252090), PubMed: [38146092](http://www.uniprot.org/citations/38146092)). Contributes to the regulation of the cellular energy metabolism (PubMed: [24252090](http://www.uniprot.org/citations/24252090)). Important for regulating tissue-specific ATP levels (PubMed: [18794531](http://www.uniprot.org/citations/18794531)). In response to metabolic stress, deacetylates transcription factor FOXO3 and recruits FOXO3 and mitochondrial RNA polymerase POLRMT to mtDNA to promote mtDNA transcription (PubMed: [23283301](http://www.uniprot.org/citations/23283301)). 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 deacylation of proteins, such as CCNE2 and 'Lys-16' of histone H4 (H4K16la) (PubMed: [36896611](http://www.uniprot.org/citations/36896611), PubMed: [37720100](http://www.uniprot.org/citations/37720100)).

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.](#)