10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SIRT3 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP6242a

Specification

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 <a >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, PubMed:12374852, PubMed:16788062, PubMed:18680753, PubMed:18794531, PubMed:23283301, PubMed:24121500, PubMed:24252090, PubMed:19535340). Activates or

deactivates mitochondrial target proteins by deacetylating key lysine residues (PubMed:12186850, PubMed:12374852, PubMed:16788062, PubMed:18680753, PubMed:18794531, PubMed:23283301, PubMed:24121500, PubMed:24252090). Known targets include ACSS1, IDH, GDH, SOD2, PDHA1, LCAD, SDHA and the ATP synthase subunit ATP5PO (PubMed:16788062, PubMed:18680753, PubMed:24121500, PubMed:24252090, PubMed:19535340). Contributes to the regulation of the cellular energy metabolism (PubMed:24252090). Important for regulating tissue-specific ATP levels (PubMed: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). 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.