

SIRT3 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
 Catalog # AP6242a-400 □

Specification

SIRT3 Antibody (C-term) - Product info

Application	IHC-P, WB
Primary Accession	Q9NTG7
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Calculated MW	43573

SIRT3 Antibody (C-term) - Additional info

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

This SIRT3 antibody is generated from rabbits immunized with
 a KLH conjugated synthetic peptide between 250-279 amino
 acids from the C-terminal region of human SIRT3.

Dilution

WB~~1:1000
 IHC-P~~1:50~100

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V)
 sodium azide. This antibody is purified through a protein A
 column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term
 storage store at -20°C in small aliquots to prevent freeze-thaw
 cycles.

Precautions

SIRT3 Antibody (C-term) is for research use only and not for
 use in diagnostic or therapeutic procedures.

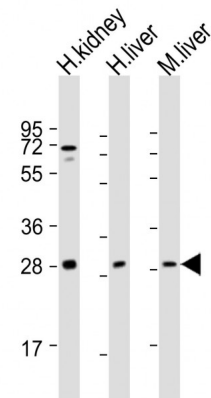
SIRT3 Antibody (C-term) - Protein Information

Name SIRT3

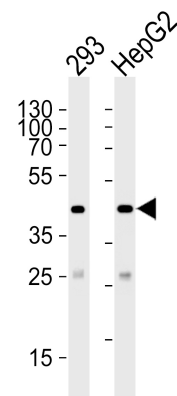
Synonyms SIR2L3

Function

NAD-dependent protein deacetylase (PubMed:<a
[href="http://www.uniprot.org/citations/12186850"](http://www.uniprot.org/citations/12186850)
 target="_blank">12186850, PubMed:<a
[href="http://www.uniprot.org/citations/12374852"](http://www.uniprot.org/citations/12374852)



All lanes : Anti-SIRT3 Antibody (C-term)
 at 1:2000 dilution Lane 1: human kidney
 lysate Lane 2: human liver lysate Lane 3:
 mouse liver lysate Lysates/proteins at 20
 µg per lane. Secondary Goat Anti-Rabbit
 IgG, (H+L), Peroxidase conjugated at
 1/10000 dilution. Predicted band size : 44
 kDa Blocking/Dilution buffer: 5%
 NFDm/TBST.



Western blot analysis of lysates from
 293, HepG2 cell line (from left to right),
 using SIRT3 Antibody (C-term)(Cat.
 #AP6242a). AP6242a was diluted at
 1:1000 at each lane. A goat anti-rabbit
 IgG H&L(HRP) at 1:5000 dilution was used

target="_blank">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 ACS1, 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).

Cellular Location
Mitochondrion matrix

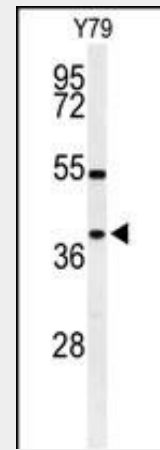
Tissue Location
Widely expressed.

SIRT3 Antibody (C-term) - Protocols

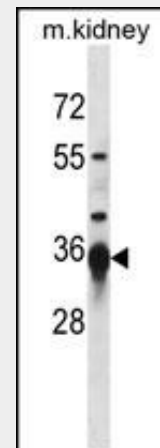
Provided below are standard protocols that you may find useful for product applications.

□ [Western Blot](#)

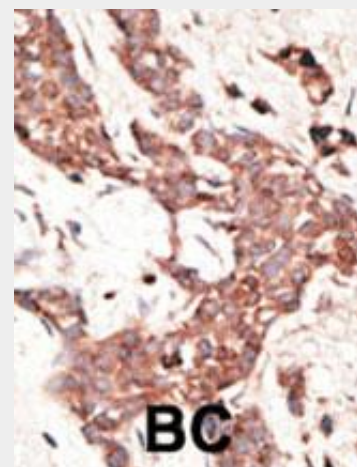
as the secondary antibody. Lysates at 35ug per lane.



SIRT3 Antibody (C-term) (Cat. #AP6242a) western blot analysis in KG-1 cell line lysates (35ug/lane). This demonstrates the SIRT3 antibody detected the SIRT3 protein (arrow).



SIRT3 Antibody (C-term) (Cat. #AP6242a) western blot analysis in HepG2 cell line lysates (35ug/lane). This demonstrates the SIRT3 antibody detected the SIRT3 protein (arrow).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this

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

antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

SIRT3 Antibody (C-term) - 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) - References

Hirschey, M.D., et al. Nature 464(7285):121-125(2010) Pillai, V.B., et al. J. Biol. Chem. 285(5):3133-3144(2010) Kim, H.S., et al. Cancer Cell 17(1):41-52(2010)

SIRT3 Antibody (C-term) - Citations

- [Sirtuin3 protects aged human mesenchymal stem cells against oxidative stress and enhances efficacy of cell therapy for ischaemic heart diseases.](#)
- [Activation of AMPK-SIRT3 Signaling is Chondroprotective by Preserving Mitochondrial DNA Integrity and Function.](#)
- [Exercise in the Prevention and Management of Oxidative Stress-Linked Diseases.](#)
- [Short-Duration Swimming Exercise after Myocardial Infarction Attenuates Cardiac Dysfunction and Regulates Mitochondrial Quality Control in Aged Mice.](#)
- [Decreased Sirtuin Deacetylase Activity in LRRK2 G2019S iPSC-Derived Dopaminergic Neurons.](#)
- [Localization of sirtuins \(SIRT1-7\) in the aged mouse inner ear.](#)
- [Activation of the aryl hydrocarbon receptor sensitizes mice to nonalcoholic steatohepatitis by deactivating mitochondrial sirtuin deacetylase Sirt3.](#)
- [Receptor-interacting protein \(RIP\) and Sirtuin-3 \(SIRT3\) are on opposite sides of anoikis and tumorigenesis.](#)
- [Integration of \$\beta\$ -catenin, sirtuin, and FOXO signaling protects from mutant huntingtin toxicity.](#)
- [PPAR \$\alpha\$ -LXR as a novel metabolostatic signalling axis in skeletal muscle that acts to optimize substrate selection in response to nutrient status.](#)
- [Sirtuin-3 \(SIRT3\), a novel potential therapeutic target for oral cancer.](#)
- [FoxO1 mediates an autofeedback loop regulating SIRT1 expression.](#)
- [Exogenous NAD blocks cardiac hypertrophic response via activation of the SIRT3-LKB1-AMP-activated kinase pathway.](#)
- [Sirt3 blocks the cardiac hypertrophic response by augmenting Foxo3a-dependent antioxidant defense mechanisms in mice.](#)
- [SIRT3 is a stress-responsive deacetylase in cardiomyocytes that protects cells from stress-mediated cell death by deacetylation of Ku70.](#)