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SIRT3 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP14573a

Specification

SIRT3 Antibody (N-term) - Product Information

Application	**WB,E**
Primary Accession	Q9NTG7
Other Accession	NP_036371.1, NP_001017524.1
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**43573**
Antigen Region	**56-84**

SIRT3 Antibody (N-term) - 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
This SIRT3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 56-84 amino acids from the N-terminal region of human SIRT3.

Dilution
WB~~1:1000
E~~Use at an assay dependent concentration.

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

SIRT3 Antibody (N-term) - Protein Information

Name SIRT3 {ECO:0000303|PubMed:12186850, ECO:0000312|HGNC:HGNC:14931}

Function NAD-dependent protein deacetylase (PubMed:12186850, PubMed:12374852, PubMed:16788062, PubMed:18680753, PubMed:18794531, PubMed:19535340, PubMed:23283301, PubMed:24121500, PubMed:24252090). 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, PubMed:38146092). Known targets include ACSS1, IDH, GDH, SOD2, PDHA1, LCAD, SDHA, MRPL12 and the ATP synthase subunit ATP5PO (PubMed:16788062, PubMed:18680753, PubMed:19535340, PubMed:24121500, PubMed:24252090, PubMed:38146092). 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 (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:36896611, PubMed:37720100).

Cellular Location
Mitochondrion matrix

Tissue Location
Widely expressed.

SIRT3 Antibody (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SIRT3 Antibody (N-term) - Images

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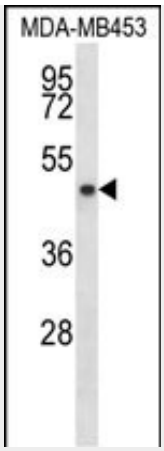

SIRT3 Antibody (N-term) (Cat. #AP14573a) western blot analysis in MDA-MB453 cell line lysates (35ug/lane).This demonstrates the SIRT3 antibody detected the SIRT3 protein (arrow).

SIRT3 Antibody (N-term) - Background

This gene encodes 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 protein encoded by this gene is included in class I of the sirtuin family. Two alternatively spliced transcript variants that encode different proteins have been described for this gene.

SIRT3 Antibody (N-term) - References

Dransfeld, C.L., et al. Int. J. Oncol. 36(4):955-960(2010)
Shulga, N., et al. J. Cell. Sci. 123 (PT 6), 894-902 (2010) :
Shi, T., et al. J Dig Dis 11(1):55-62(2010)
Kong, X., et al. PLoS ONE 5 (7), E11707 (2010) :
Li, S., et al. PLoS ONE 5 (5), E10486 (2010) :