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Anti-SIRT3 Picoband Antibody

Catalog # ABO11858

Product Information

Application	WB
Primary Accession	Q9NTG7
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for NAD-dependent protein deacetylase sirtuin-3, mitochondrial(SIRT3) detection. Tested with WB in Human;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	23410
Other Names	NAD-dependent protein deacetylase sirtuin-3, mitochondrial, hSIRT3, 3.5.1.-, Regulatory protein SIR2 homolog 3, SIR2-like protein 3, SIRT3, SIR2L3
Calculated MW	43573
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Rat
Subcellular Localization	Mitochondrion matrix .
Tissue Specificity	Widely expressed. .
Source	Eukaryota
Protein Name	NAD-dependent protein deacetylase sirtuin-3, mitochondrial
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human SIRT3 recombinant protein (Position: P66-K399). Human SIRT3 shares 86% amino acid (aa) sequence identity with mouse SIRT3.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the sirtuin family. Class I subfamily.

Protein Information

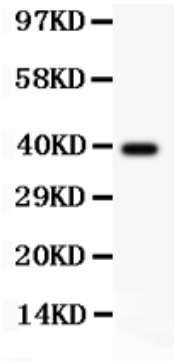
Name	SIRT3 {ECO:0000303|PubMed:12186850, ECO:0000312|HGNC:HGNC:14931}
Function	NAD-dependent protein deacetylase (PubMed: 12186850, PubMed:12374852, PubMed:16788062, PubMed:18680753, PubMed:18794531, PubMed:19535340, PubMed:23283301, PubMed:24121500, PubMed:24252090). Activates or deactivates mitochondrial 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 down-regulates 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 recognizing other acyl groups, such as benzoyl and lactoyl, leading to protein debenzoylation and delactylation, respectively (PubMed:39524354, PubMed:36896611, PubMed:37720100). Catalyzes debenzoylation of PPIF and ACLY (PubMed:37720100). Mediates delactylation of CCNE2 and 'Lys-16' of histone H4 (H4K16la) (PubMed:36896611, PubMed:37720100).
Cellular Location	Mitochondrion matrix
Tissue Location	Widely expressed.

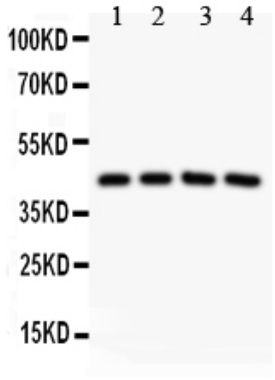
Background

NAD-dependent deacetylase sirtuin-3, mitochondrial also known as SIRT3 is a protein that in humans is encoded by the SIRT3 gene. SIRT3 is member of the mammalian sirtuin family of proteins, which are homologs to the yeast Sir2 protein. It is mapped to 11p15.5. Endogenous SIRT3 is a soluble protein located in the mitochondrial matrix. Overexpression of SIRT3 in cultured cells increases respiration and decreases the production of reactive oxygen species. SIRT3 can function as a mitochondrial deacetylase. In addition to it, human sirtuins may function as intracellular regulatory proteins with mono-ADP-ribosyltransferase activity.

Images

Anti-SIRT3 Picoband antibody, ABO11858-1.jpgAll lanes: Anti SIRT3 (ABO11858) at 0.5ug/mlWB: Recombinant Human SIRT3 Protein 0.5ngPredicted bind size: 39KDObserved bind size: 39KD





Anti-SIRT3 Picoband antibody, ABO11858-2.jpgAll lanes: Anti SIRT3 (ABO11858) at 0.5ug/mlLane 1: Rat Spleen Tissue Lysate at 50ugLane 2: Human Placenta Tissue Lysate at 50ugLane 3: HELA Whole Cell Lysate at 40ugLane 4: COLO320 Whole Cell Lysate at 40ugPredicted bind size: 44KD Observed bind size: 44KD

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