

Anti-SIRT3 Picoband Antibody
Catalog # ABO11858**Specification**

Anti-SIRT3 Picoband Antibody - 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.

Anti-SIRT3 Picoband Antibody - 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 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human, Rat

Subcellular Localization

Mitochondrion matrix .

Tissue Specificity

Widely expressed. .

Protein Name

NAD-dependent protein deacetylase sirtuin-3, mitochondrial

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Na₃.

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.

Anti-SIRT3 Picoband Antibody - 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

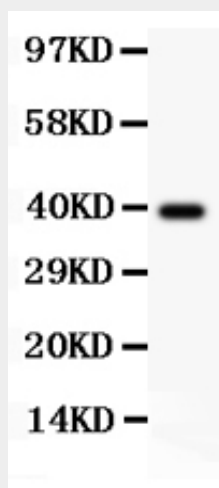
Tissue Location

Widely expressed.

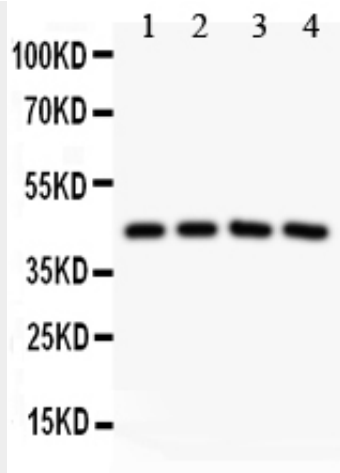
Anti-SIRT3 Picoband Antibody - Protocols

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

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

Anti-SIRT3 Picoband Antibody - Images

Anti-SIRT3 Picoband antibody, ABO11858-1.jpg All lanes: Anti SIRT3 (ABO11858) at 0.5ug/ml WB:
Recombinant Human SIRT3 Protein 0.5ng Predicted bind size: 39KD Observed bind size: 39KD



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

Anti-SIRT3 Picoband Antibody - 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.