

[24121500](http://www.uniprot.org/citations/24121500), PubMed: [24252090](http://www.uniprot.org/citations/24252090)). Activates or deactivates mitochondrial target proteins by deacetylating key lysine residues (PubMed: [12186850](http://www.uniprot.org/citations/12186850), PubMed: [12374852](http://www.uniprot.org/citations/12374852), PubMed: [16788062](http://www.uniprot.org/citations/16788062), PubMed: [18680753](http://www.uniprot.org/citations/18680753), PubMed: [18794531](http://www.uniprot.org/citations/18794531), PubMed: [23283301](http://www.uniprot.org/citations/23283301), PubMed: [24121500](http://www.uniprot.org/citations/24121500), PubMed: [24252090](http://www.uniprot.org/citations/24252090), PubMed: [38146092](http://www.uniprot.org/citations/38146092)). Known targets include ACSS1, IDH, GDH, SOD2, PDHA1, LCAD, SDHA, MRPL12 and the ATP synthase subunit ATP5PO (PubMed: [16788062](http://www.uniprot.org/citations/16788062), PubMed: [18680753](http://www.uniprot.org/citations/18680753), PubMed: [19535340](http://www.uniprot.org/citations/19535340), PubMed: [24121500](http://www.uniprot.org/citations/24121500), PubMed: [24252090](http://www.uniprot.org/citations/24252090), PubMed: [38146092](http://www.uniprot.org/citations/38146092)). Contributes to the regulation of the cellular energy metabolism (PubMed: [24252090](http://www.uniprot.org/citations/24252090)). Important for regulating tissue-specific ATP levels (PubMed: [18794531](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/36896611), PubMed: [37720100](http://www.uniprot.org/citations/37720100)).

Cellular Location

Mitochondrion matrix

Tissue Location

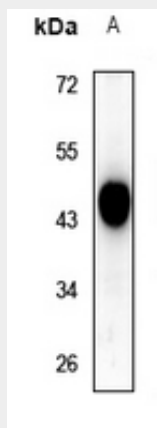
Widely expressed.

Anti-SIRT3 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 Antibody - Images



Western blot analysis of SIRT3 expression in HCT116 (A) whole cell lysates.

Anti-SIRT3 Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human SIRT3. The exact sequence is proprietary.