

KD-Validated Anti-SIRT3 Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI2266**Specification****KD-Validated Anti-SIRT3 Rabbit Monoclonal Antibody - Product Information**

Application	WB
Primary Accession	Q9NTG7
Reactivity	Human
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 44 kDa; observed, 28 kDa kDa
Gene Name	SIRT3
Aliases	SIRT3; Sirtuin 3; SIR2L3; NAD-Dependent Protein Deacetylase Sirtuin-3, Mitochondrial; Regulatory Protein SIR2 Homolog 3; SIR2-Like Protein 3; Sirtuin (Silent Mating Type Information Regulation 2 Homolog) 3 (S. Cerevisiae); Sirtuin (Silent Mating Type Information Regulation 2, S.Cerevisiae, Homolog) 3; Mitochondrial Nicotinamide Adenine Dinucleotide-Dependent Deacetylase; Silent Mating Type Information Regulation 2, S.Cerevisiae, Homolog 3; NAD-Dependent Deacetylase Sirtuin-3, Mitochondrial; Sirtuin Type 3; EC 2.3.1.286; Sir2-Like 3; HSIRT3
Immunogen	A synthesized peptide derived from human SIRT3

KD-Validated Anti-SIRT3 Rabbit Monoclonal Antibody - Additional Information

Gene ID	23410
Other Names	NAD-dependent protein deacetylase sirtuin-3, mitochondrial, hSIRT3, 2.3.1.286 {ECO:0000255 PROSITE-ProRule:PRU00236, ECO:0000269 PubMed:12186850, ECO:0000269 PubMed:12374852, ECO:0000269 PubMed:16788062, ECO:0000269 PubMed:18680753, ECO:0000269 PubMed:18794531}, NAD-dependent protein deacetylase sirtuin-3, 2.3.1.-, Regulatory protein SIR2 homolog 3, SIR2-like protein 3, SIRT3 {ECO:0000303 PubMed:12186850, ECO:0000312 HGNC:HGNC:14931}

KD-Validated Anti-SIRT3 Rabbit Monoclonal Antibody - Protein Information**Name** SIRT3 {ECO:0000303|PubMed:12186850, ECO:0000312|HGNC:HGNC:14931}**Function**

NAD-dependent protein deacetylase (PubMed:<a

[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: [19535340](http://www.uniprot.org/citations/19535340), PubMed: [23283301](http://www.uniprot.org/citations/23283301), PubMed: [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 deacylation 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.

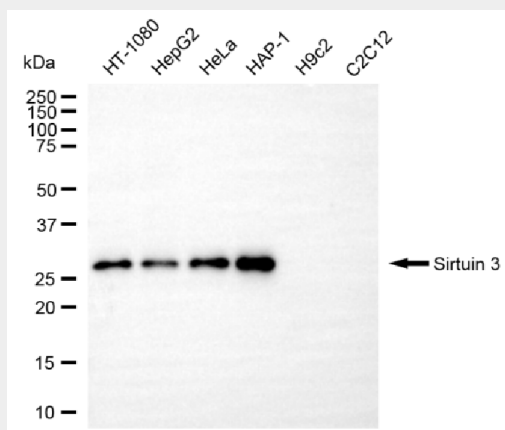
KD-Validated Anti-SIRT3 Rabbit Monoclonal Antibody - Protocols

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

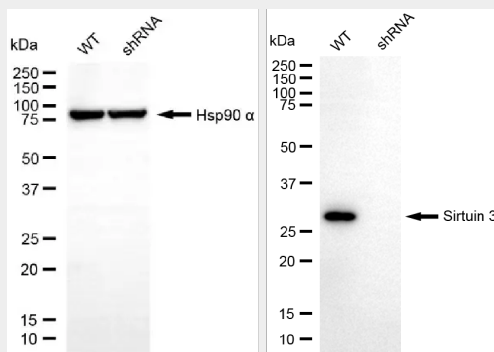
- [Western Blot](#)

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

KD-Validated Anti-SIRT3 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-sirtuin 3 antibody (Cat#AGI2266). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-sirtuin 3 antibody (Cat#AGI2266, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-sirtuin 3 antibody (Cat#AGI2266). Sirtuin 3 expression in wild-type (WT) and sirtuin 3 (SIRT3) shRNA knockdown (KD) HeLa cells with 25 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-sirtuin 3 antibody (Cat#AGI2266, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.