

# SIRT3 Rabbit mAb

Catalog # AP76086

## Product Information

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<b>Application</b>	WB, IHC-P
<b>Primary Accession</b>	<a href="#">Q9NTG7</a>
<b>Reactivity</b>	Human
<b>Host</b>	Rabbit
<b>Clonality</b>	Monoclonal Antibody
<b>Calculated MW</b>	43573

## Additional Information

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<b>Gene ID</b>	23410
<b>Other Names</b>	SIRT3
<b>Dilution</b>	WB~1/500-1/1000 IHC-P~N/A
<b>Format</b>	50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

## Protein Information

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<b>Name</b>	SIRT3 {ECO:0000303   PubMed:12186850, ECO:0000312   HGNC:HGNC:14931}
<b>Function</b>	NAD-dependent protein deacetylase (PubMed: <a href="#">12186850</a> , PubMed: <a href="#">12374852</a> , PubMed: <a href="#">16788062</a> , PubMed: <a href="#">18680753</a> , PubMed: <a href="#">18794531</a> , PubMed: <a href="#">19535340</a> , PubMed: <a href="#">23283301</a> , PubMed: <a href="#">24121500</a> , PubMed: <a href="#">24252090</a> ). Activates or deactivates mitochondrial target proteins by deacetylating key lysine residues (PubMed: <a href="#">12186850</a> , PubMed: <a href="#">12374852</a> , PubMed: <a href="#">16788062</a> , PubMed: <a href="#">18680753</a> , PubMed: <a href="#">18794531</a> , PubMed: <a href="#">23283301</a> , PubMed: <a href="#">24121500</a> , PubMed: <a href="#">24252090</a> , PubMed: <a href="#">38146092</a> ). Known targets include ACSS1, IDH, GDH, SOD2, PDHA1, LCAD, SDHA, MRPL12 and the ATP synthase subunit ATP5PO (PubMed: <a href="#">16788062</a> , PubMed: <a href="#">18680753</a> , PubMed: <a href="#">19535340</a> , PubMed: <a href="#">24121500</a> , PubMed: <a href="#">24252090</a> , PubMed: <a href="#">38146092</a> ). Contributes to the regulation of the cellular energy metabolism (PubMed: <a href="#">24252090</a> ). Important for regulating tissue-specific ATP levels (PubMed: <a href="#">18794531</a> ). In response to metabolic stress, deacetylates transcription factor FOXO3 and recruits FOXO3 and mitochondrial RNA polymerase POLRMT to mtDNA to promote mtDNA transcription (PubMed: <a href="#">23283301</a> ). Acts as a regulator of ceramide metabolism by mediating deacetylation of ceramide synthases CERS1, CERS2 and CERS6, thereby increasing their activity and promoting

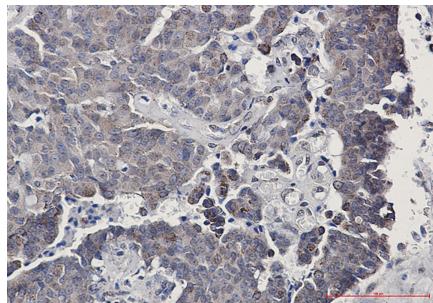
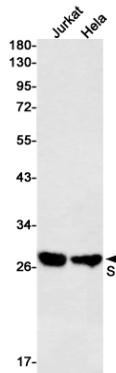
mitochondrial ceramide accumulation (By similarity). Regulates hepatic lipogenesis (By similarity). Uses NAD(+) substrate imported by SLC25A47, triggering downstream activation of PRKAA1/AMPK- alpha signaling cascade that ultimately downregulates sterol regulatory element-binding protein (SREBP) transcriptional 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 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.

## Images

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