SirT1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	SirT1, Polyclonal Antibody
Full Product Name	SirT1 (Phospho-Ser47) Antibody
Product Gene Name	anti-SirT1 antibody
Product Synonym Gene Name	SirT1
Product Synonym Names	hSIR2; hSIRT1; NAD-dependent deacetylase sirtuin 1; SIR1; SIR2L1
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purity/Purification	Antibodies were produced by immunizing rabbits with synthetic phosphopeptide and KLH conjugates. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. Non-phospho specific antibodies were removed by chromatogramphy usi
Specificity	The antibody detects endogenous level of SirT1 only when phosphorylated at serine 47.
Preparation and Storage	Store at 4 degree C short term. Aliquot and store at -20 degree C long term. Avoid freeze/thaw cycles.
Molecular Weight	81,681 Da
Chromosome Location	Chromosome: 10; NC_000010.10 (69644427..69678147). Location: 10q21.3
OMIM	604479
3D Structure	ModBase 3D Structure for Q96EB6
Immunogen	Peptide sequence around phosphorylation site of serine 47 (E-R-S (p)-P-G) derived from Human SirT1.
Product Categories/Family for anti-SirT1 antibody	Primary Antibody
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-SirT1 antibody	Western Blot (WB)
Application Notes for anti-SirT1 antibody	WB: 1:500~1:1000
Related Product Information for anti-SirT1 antibody	NAD-dependent protein deacetylase that links transcriptional regulation directly to intracellular energetics and participates in the coordination of several separated cellular functions such as cell cycle, response to DNA damage, metobolism, apoptosis and autophagy. Can modulate chromatin function through deacetylation of histones and can promote alterations in the methylation of histones and DNA, leading to transcriptional repression. Deacetylates a broad range of transcription factors and coregulators, thereby regulating target gene expression positively and negatively.
Product References and Citations for anti-SirT1 antibody	Gao Z, et al. (2011) J Biol Chem 286, 22227-34. Zschoernig B, Mahlknecht U (2009)Biochem Biophys Res Commun 381, 372-7. Nasrin N, et al. (2009)PLoS One 4, e8414

Other Notes	Small volumes of anti-SirT1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for SirT1 purchase	MBS8585214 is an antibody targeting SirT1. Also known as SirT1 (Phospho-Ser47) Antibody. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SirT1. It may not necessarily be applicable to this product.

NCBI GI #	215982798
NCBI GeneID	23411
NCBI Accession #	NP_001135970.1
UniProt Primary Accession #	Q96EB6
UniProt Secondary Accession #	Q2XNF6; Q5JVQ0; Q9GZR9; Q9Y6F0
UniProt Related Accession #	Q96EB6
GenBank Nucleotide #	NM_001142498.1
NCBI Official Full Name	NAD-dependent protein deacetylase sirtuin-1 isoform b
NCBI Official Synonym Full Names	sirtuin 1
NCBI Official Symbol	SIRT1
NCBI Official Synonym Symbols	SIR2L1
UniProt Protein Name	NAD-dependent protein deacetylase sirtuin-1
UniProt Synonym Protein Names	Regulatory protein SIR2 homolog 1; SIR2-like protein 1
Protein Family	NAD-dependent protein deacetylase sirtuin
UniProt Gene Name	SIRT1
UniProt Synonym Gene Names	SIR2L1; hSIRT1; hSIR2; 75SirT1
UniProt Entry Name	SIR1_HUMAN
NCBI Protein Information	NAD-dependent protein deacetylase sirtuin-1; hSIR2; hSIRT1; SIR2alpha; sir2-like 1; sirtuin type 1; SIR2-like protein 1; regulatory protein SIR2 homolog 1; NAD-dependent deacetylase sirtuin-1
NCBI Summary for SirT1	This gene encodes a member of the sirtuin family of proteins, homologs to the yeast Sir2 protein. Members of the sirtuin family are characterized by a sirtuin core domain and grouped into four classes. The functions of human sirtuins have not yet been determined; however, yeast sirtuin proteins are known to regulate epigenetic gene silencing and suppress recombination of rDNA. Studies suggest that the human sirtuins may function as intracellular regulatory proteins with mono-ADP-ribosyltransferase activity. The protein encoded by this gene is included in class I of the sirtuin family. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Dec 2008]

UniProt Comments for SirT1	SIRT1: an NAD-dependent protein deacetylase that links transcriptional regulation directly to intracellular energetics and participates in the coordination of several separate cellular functions such as cell cycle, response to DNA damage, metobolism, apoptosis and autophagy. Deacetylates a broad range of transcription factors and coregulators, thereby regulating target gene expression positively and negatively. Serves as a sensor of the cytosolic ratio of NAD(+)/NADH which is altered by glucose deprivation and metabolic changes associated with caloric restriction. Essential in skeletal muscle cell differentiation and in response to low nutrients mediates the inhibitory effect on skeletal myoblast differentiation which also involves 5'-AMP-activated protein kinase (AMPK) and nicotinamide phosphoribosyltransferase (NAMPT). Component of the eNoSC (energy-dependent nucleolar silencing) complex, a complex that mediates silencing of rDNA in response to intracellular energy status and acts by recruiting histone-modifying enzymes. Elevation of NAD(+)/NADP(+) ratio activates SIRT1. Recruited to LRH1 target gene promoters by NR0B2/SHP thereby stimulating histone H3 and H4 deacetylation leading to transcriptional repression. Implicated in regulation of adipogenesis and fat mobilization in white adipocytes by repression of PPARG. Involved in liver and muscle metabolism. Is involved in autophagy, presumably by deacetylating ATG5, ATG7 and ATG8. Deacetylates AKT1 which leads to enhanced binding of AKT1 and PDK1 to PIP3 and promotes their activation. Widely expressed. Inhibited by nicotinamide. Belongs to the sirtuin family. Class I subfamily. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Deacetylase; Apoptosis; EC 3.5.1.-; Nuclear receptor co-regulator Chromosomal Location of Human Ortholog: 10q21.3 Cellular Component: nucleoplasm; chromatin silencing complex; PML body; mitochondrion; ESC/E(Z) complex; nuclear chromatin; cytoplasm; nucleolus; nuclear inner membrane; nuclear envelope; nuclear heterochromatin; nucleus Molecular Function: deacetylase activity; protein C-terminus binding; identical protein binding; histone binding; p53 binding; metal ion binding; protein deacetylase activity; transcription factor binding; protein binding; NAD-dependent histone deacetylase activity (H3-K9 specific); enzyme binding; NAD-dependent histone deacetylase activity; bHLH transcription factor binding; mitogen-activated protein kinase binding; histone deacetylase activity; transcription corepressor activity; HLH domain binding; NAD+ ADP-ribosyltransferase activity Biological Process: establishment and/or maintenance of chromatin architecture; muscle development; viral reproduction; positive regulation of apoptosis; regulation of mitotic cell cycle; positive regulation of caspase activity; protein ubiquitination; negative regulation of prostaglandin biosynthetic process; negative regulation of DNA damage response, signal transduction by p53 class mediator; negative regulation of gene expression, epigenetic; behavioral response to starvation; positive regulation of adaptive immune response; positive regulation of histone H3-K9 methylation; positive regulation of DNA repair; transcription, DNA-dependent; negative regulation of transcription factor activity; pyrimidine dimer repair via nucleotide-excision repair; cell aging; negative regulation of I-kappaB kinase/NF-kappaB cascade; ovulation from ovarian follicle; cellular response to starvation; negative regulation of fat cell differentiation; regulation of endodeoxyribonuclease activity; cholesterol homeostasis; protein amino acid ADP-ribosylation; methylation-dependent chromatin silencing; inhibition of NF-kappaB transcription factor; maintenance of chromatin silencing; regulation of protein import into nucleus, translocation; negative regulation of phosphorylation; positive regulation of transcription from RNA polymerase II promoter; response to oxidative stress; triacylglycerol mobilization; negative regulation of transcription, DNA-dependent; rRNA processing; peptidyl-lysine acetylation; negative regulation of apoptosis; chromatin silencing at rDNA; proteasomal ubiquitin-dependent protein catabolic process; establishment of chromatin silencing; chromatin silencing; negative regulation of transcription from RNA polymerase II promoter; regulation of gene expression, epigenetic; response to insulin stimulus; DNA synthesis during DNA repair; protein amino acid deacetylation; positive regulation of MHC class II biosynthetic process; positive regulation of cell proliferation; angiogenesis; circadian regulation of gene expression; DNA replication; DNA damage response, signal transduction by p53 class mediator resulting in induction of apoptosis; positive regulation of chromatin silencing; single strand break repair; negative regulation of TOR signaling pathway; negative regulation of protein kinase B signaling cascade; protein destabilization; histone deacetylation; DNA repair; regulation of cell proliferation; negative regulation of helicase activity; response to hydrogen peroxide; fatty acid homeostasis; white fat cell differentiation; cell glucose homeostasis; spermatogenesis; gene expression; positive regulation of protein amino acid phosphorylation; positive regulation of insulin receptor signaling pathway; negative regulation of cell growth; negative regulation of transforming growth factor beta receptor signaling pathway; response to DNA damage stimulus; positive regulation of macroautophagy
Research Articles on SirT1	**1.** SirT1 is necessary for healthy cartilage homeostasis and is reduced or inactivated during systemic occurrences involving OA like aging, adipokine release and inflammation[review]

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