ARG54682
anti-SIRT1 antibody

Package: 50 µg
Store at: -20°C

Summary

Product Description	Chicken Polyclonal antibody recognizes SIRT1
Tested Reactivity	Hu, Ms, Rat
Tested Application	ELISA, ICC/IF, WB
Host	Chicken
Clonality	Polyclonal
Isotype	IgY
Target Name	SIRT1
Immunogen	Synthetic peptide (19 aa) within the first 50 aa of Human SIRT1.
Conjugation	Un-conjugated
Alternate Names	75SirT1; SIR2L1; SIR2alpha; SIR2-like protein 1; EC 3.5.1.-; NAD-dependent protein deacetylase sirtuin-1; SIR2; hSIRT1; Regulatory protein SIR2 homolog 1; hSIR2

Application Instructions

Application table

Application	Dilution
ELISA	Assay-dependent
ICC/IF	20 µg/ml
WB	1 µg/ml

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	Mouse Liver Tissue Lysate

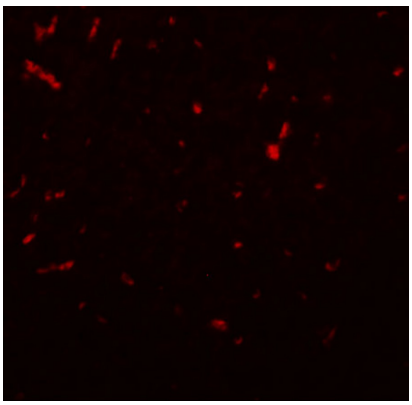
Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS and 0.02% Sodium azide
Preservative	0.02% Sodium azide
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

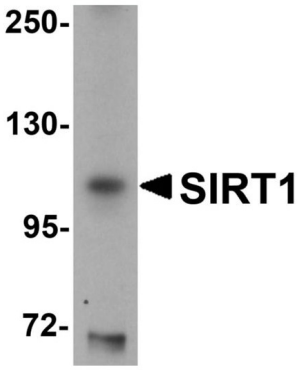
Database links	GeneID: 23411 Human GeneID: 93759 Mouse Swiss-port # Q923E4 Mouse Swiss-port # Q96EB6 Human
Gene Symbol	SIRT1
Gene Full Name	sirtuin 1
Background	The Silent Information Regulator (SIR2) family of genes are highly conserved from prokaryotes to eukaryotes and have important functions in the regulation of metabolism, growth and differentiation, inflammation, cellular survival, as well as in senescence and lifespan extension. Sirtuins, including SIRT1-7, are human homologs of yeast Sir2p. Sirtuins are NAD+-dependent histone/protein deacetylases (HDAC) which regulate cellular metabolism, e.g. energy metabolism, and thereby are associated with aging and several age-related diseases. SIRT1 has the closest homology to the yeast Sir2p and is widely expressed in fetal and adult tissues. SIRT1 regulates the p53-dependent DNA damage response pathway by binding to and deacetylating p53, specifically via lysine residue.
Function	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. [UniProt]
Research Area	Cell Biology and Cellular Response antibody; Cell Death antibody; Controls and Markers antibody; Gene Regulation antibody; Metabolism antibody; Microbiology and Infectious Disease antibody
Calculated Mw	82 kDa
PTM	Methylated on multiple lysine residues; methylation is enhanced after DNA damage and is dispensable for deacetylase activity toward p53/TP53. Phosphorylated. Phosphorylated by STK4/MST1, resulting in inhibition of SIRT1-mediated p53/TP53 deacetylation. Phosphorylation by MAPK8/JNK1 at Ser-27, Ser-47, and Thr-530 leads to increased nuclear localization and enzymatic activity. Phosphorylation at Thr-530 by DYRK1A and DYRK3 activates deacetylase activity and promotes cell survival. Phosphorylation by mammalian target of rapamycin complex 1 (mTORC1) at Ser-47 inhibits deacetylation activity. Phosphorylated by CaMK2, leading to increased p53/TP53 and NF-kappa-B p65/RELA deacetylation activity (By similarity). Phosphorylation at Ser-27 implicating MAPK9 is linked to protein stability. There is some ambiguity for some phosphosites: Ser-159/Ser-162 and Thr-544/Ser-545. Proteolytically cleaved by cathepsin B upon TNF-alpha treatment to yield catalytic inactive but stable SirtT1 75 kDa fragment (75SirT1). S-nitrosylated by GAPDH, leading to inhibit the NAD-dependent protein deacetylase activity.

Images



ARG54682 anti-SIRT1 antibody ICC/IF image

Immunofluorescence: rat lung tissue stained with ARG54682 anti-SIRT1 antibody at 20 µg/ml.



ARG54682 anti-SIRT1 antibody WB image

Western blot: mouse liver tissue lysate stained with ARG54682 anti-SIRT1 antibody at 1 µg/ml.