

ARG54170 anti-SIRT1 antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody recognizes SIRT1
Tested Reactivity	Hu
Tested Application	IP, WB
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Target Name	SIRT1
Species	Human
Immunogen	Purified recombinant human SIRT1 protein fragments expressed in E.coli.
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

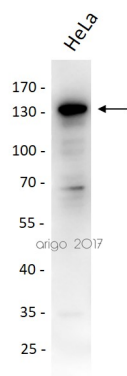
Application Instructions

Application table	Application	Dilution
	IP	Assay-dependent
	WB	1:1000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

Properties

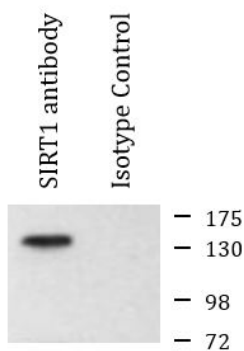
Form	Liquid
Purification	Affinity purified
Buffer	PBS (pH 7.4), 0.02% Sodium azide and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	5 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. 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.

Database links	GeneID: 23411 Human Swiss-port # Q96EB6 Human
Gene Symbol	SIRT1
Gene Full Name	sirtuin 1
Background	<p>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]</p>
Function	<p>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, metabolism, 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. Serves as a sensor of the cytosolic ratio of NAD⁺/NADH which is altered by glucose deprivation and metabolic changes associated with caloric restriction. [UniProt]</p>
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	<p>Methylated on multiple lysine residues; methylation is enhanced after DNA damage and is dispensable for deacetylase activity toward p53/TP53.</p> <p>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.</p> <p>Proteolytically cleaved by cathepsin B upon TNF-alpha treatment to yield catalytic inactive but stable SirtT1 75 kDa fragment (75SirT1).</p> <p>S-nitrosylated by GAPDH, leading to inhibit the NAD-dependent protein deacetylase activity.</p>
Cellular Localization	<p>Nucleus > PML body. Cytoplasm. Note:Recruited to the nuclear bodies via its interaction with PML. Colocalized with APEX1 in the nucleus. May be found in nucleolus, nuclear euchromatin, heterochromatin and inner membrane. Shuttles between nucleus and cytoplasm.</p>



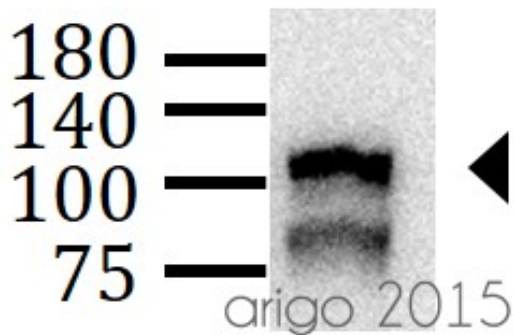
ARG54170 anti-SIRT1 antibody WB image

Western blot: 30 µg of HeLa cell lysate stained with ARG54170 anti-SIRT1 antibody at 1:1000 dilution.



ARG54170 anti-SIRT1 antibody IP image

Immunoprecipitation: HeLa cell lysates were immunoprecipitated and stained with ARG54170 anti-SIRT1 antibody.



ARG54170 anti-SIRT1 antibody WB image

Western blot: 30 µg of 1) HT29, 2) HCT116, and 3) HeLa cell lysates stained with ARG54170 anti-SIRT1 antibody at 1:1000 dilution.