

## SIRT1 Monoclonal Antibody

<b>Catalog No :</b>	YM0578
<b>Reactivity :</b>	Human;Monkey
<b>Applications :</b>	WB;IHC;IF;FCM;ELISA
<b>Target :</b>	SIRT1
<b>Fields :</b>	>>Nicotinate and nicotinamide metabolism;>>Metabolic pathways;>>FoxO signaling pathway;>>AMPK signaling pathway;>>Longevity regulating pathway;>>Longevity regulating pathway - multiple species;>>Cellular senescence;>>Glucagon signaling pathway;>>Alcoholic liver disease;>>Amphetamine addiction;>>MicroRNAs in cancer
<b>Gene Name :</b>	SIRT1
<b>Protein Name :</b>	NAD-dependent deacetylase sirtuin-1
<b>Human Gene Id :</b>	23411
<b>Human Swiss Prot No :</b>	Q96EB6
<b>Mouse Swiss Prot No :</b>	Q923E4
<b>Immunogen :</b>	Purified recombinant fragment of human SIRT1 expressed in E. Coli.
<b>Specificity :</b>	SIRT1 Monoclonal Antibody detects endogenous levels of SIRT1 protein.
<b>Formulation :</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
<b>Source :</b>	Monoclonal, Mouse
<b>Dilution :</b>	WB 1:500 - 1:2000. IHC 1:200 - 1:1000. IF 1:200 - 1:1000. Flow cytometry: 1:200 - 1:400. ELISA: 1:10000. Not yet tested in other applications.
<b>Purification :</b>	Affinity purification
<b>Storage Stability :</b>	-15°C to -25°C/1 year(Do not lower than -25°C)

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**Molecularweight :** 82kD

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**Cell Pathway :** Protein\_Acetylation

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**P References :**

1. Clin Cancer Res. 2009 Jul 1;15(13):4453-9.
2. Cell. 2009 Jul 23;138(2):389-403.
3. J Biol Chem. 2009 Oct 16;284(42):28762-74.

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**Background :**

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],

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**Function :**

catalytic activity:NAD(+) + an acetylprotein = nicotinamide + O-acetyl-ADP-ribose + a protein.,cofactor: Binds 1 zinc ion per subunit.,enzyme regulation: Inhibited by nicotinamide. Activated by resveratrol (3,5,4'-trihydroxy-trans-stilbene), butein (3,4,2',4'-tetrahydroxychalcone), piceatannol (3,5,3',4'-tetrahydroxy-trans-stilbene), Isoliquiritigenin (4,2',4'-trihydroxychalcone), fisetin (3,7,3',4'-tetrahydroxyflavone) and quercetin (3,5,7,3',4'-pentahydroxyflavone). RPS19BP1/AROS acts as a positive regulator of deacetylation activity.,function: NAD-dependent deacetylase, which regulates processes such as apoptosis and muscle differentiation by deacetylating key proteins. Deacetylates 'Lys-382' of p53/TP53 and impairs its ability to induce proapoptotic program and modulate cell senescence. Deacetylates TAF1B and thereby represses rDNA transcription by the RNA polymerase I. Involved in HES1

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**Subcellular Location :**

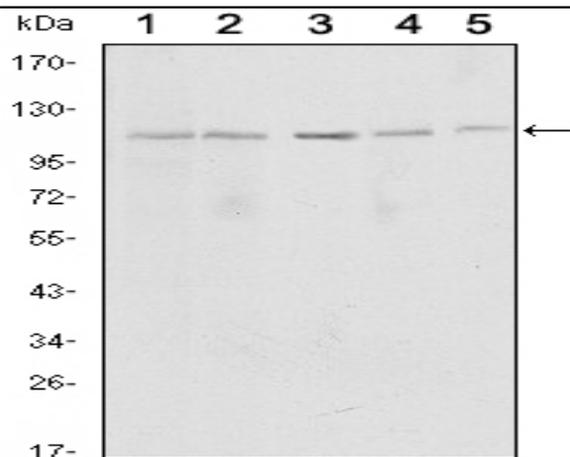
Nucleus, PML body . Cytoplasm . Nucleus . Recruited to the nuclear bodies via its interaction with PML (PubMed:12006491). Colocalized with APEX1 in the nucleus (PubMed:19934257). May be found in nucleolus, nuclear euchromatin, heterochromatin and inner membrane (PubMed:15469825). Shuttles between nucleus and cytoplasm (By similarity). Colocalizes in the nucleus with XBP1 isoform 2 (PubMed:20955178). .; [SirtT1 75 kDa fragment]: Cytoplasm . Mitochondrion .

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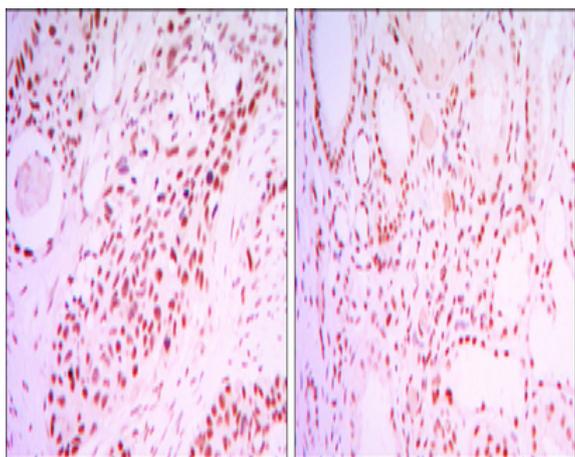
**Expression :** Widely expressed.

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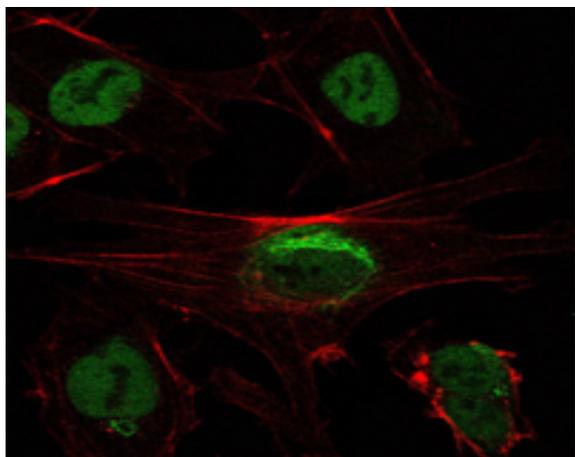
## Products Images



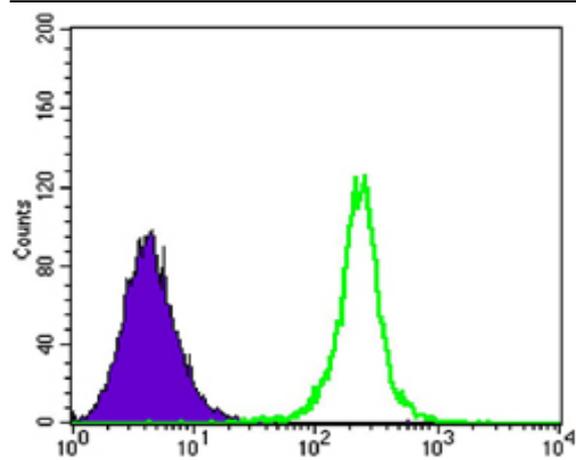
Western Blot analysis using SIRT1 Monoclonal Antibody against MCF-7 (1), Jurkat (2), HeLa (3), HEK293 (4) and A549 (5) cell lysate.



Immunohistochemistry analysis of paraffin-embedded lung cancer tissues (left) and kidney cancer tissues (right) with DAB staining using SIRT1 Monoclonal Antibody.



Immunofluorescence analysis of NTERA-2 cells using SIRT1 Monoclonal Antibody (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



Flow cytometric analysis of K562 cells using SIRT1 Monoclonal Antibody (green) and negative control (purple).