

# Anti-SIRT1 Antibody [7-C5-B2]

M1506-3



<b>Product Type:</b>	Mouse monoclonal IgG2b, primary antibodies
<b>Species reactivity:</b>	Human, Mouse
<b>Applications:</b>	WB, IF-Cell, IHC-P
<b>Molecular Wt:</b>	Predicted band size: 82 kDa
<b>Clone number:</b>	7-C5-B2

**Description:** Sirtuin 1 is a member of the sirtuin family of proteins, homologs of the Sir2 gene in *S. cerevisiae*. 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. Sirtuin 1 is downregulated in cells that have high insulin resistance and inducing its expression increases insulin sensitivity, suggesting the molecule is associated with improving insulin sensitivity. Furthermore, SIRT1 was shown to de-acetylate and affect the activity of both members of the PGC1-alpha/ERR-alpha complex, which are essential metabolic regulatory transcription factors. In mammals, SIRT1 has been shown to deacetylate and thereby deactivate the p53 protein. SIRT1 also stimulates autophagy by preventing acetylation of proteins (via deacetylation) required for autophagy as demonstrated in cultured cells and embryonic and neonatal tissues. This function provides a link between sirtuin expression and the cellular response to limited nutrients due to caloric restriction. SIRT1 plays a role in activating T helper 17 cells, which contribute to autoimmune disease; efforts to activate SIRT1 therapeutically may trigger or exacerbate autoimmune disease. SIRT1, along with HDAC1 and the AP-1 promoter complex within D1-type dopaminergic medium spiny neurons, appears to be closely involved in the pathogenesis of addiction.

**Immunogen:** Synthetic peptide within Human SIRT1 aa 698-747 / 747.

**Positive control:** HAP1 cell lysate, HeLa, human lung carcinoma tissue, human colon carcinoma tissue

**Subcellular location:** Nucleus, PML body, Cytoplasm.

**Database links:** SwissProt: Q96EB6 Human

**Recommended Dilutions:**

IHC-P	1:200
IF-Cell	1:100
WB	1:2,000

**Storage Buffer:** 1\*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

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Orders:0086-571-88062880

Technical:0086-571-89986345

Service mail:support@huabio.cn

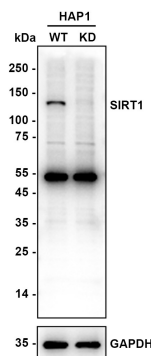
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## Images

**Fig1:** Western blot analysis of SIRT1 on different lysates with Mouse anti-SIRT1 antibody (M1506-3) at 1/2,000 dilution.

Lane 1: HAP1-parental cell lysate

Lane 2: HAP1-SIRT1 KD cell lysate



Lysates/proteins at 10 µg/Lane.

Predicted band size: 80 kDa

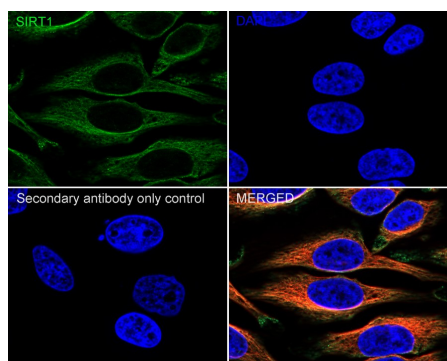
Observed band size: 120 kDa

Exposure time: 30 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (M1506-3) at 1/2,000 dilution was used in K1803 at 4°C overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

**Fig2:** Immunocytochemistry analysis of HeLa cells labeling SIRT1 with Mouse anti-SIRT1 antibody (M1506-3) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Mouse anti-SIRT1 antibody (M1506-3) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

beta Tubulin (ET1602-4, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Rabbit IgG H&L (iFluor™ 594, HA1122) were used as the secondary antibody at 1/1,000 dilution.

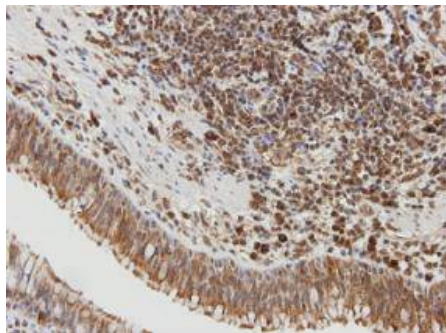
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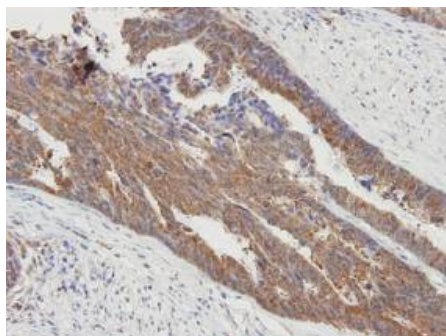
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**Fig3:** Immunohistochemical analysis of paraffin-embedded human lung carcinoma tissue using anti- SIRT1 mouse mAb.



**Fig4:** Immunohistochemical analysis of paraffin-embedded human colon carcinoma tissue using anti- SIRT1 mouse mAb.

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

### Background References

1. "Human SIR2 deacetylates p53 and antagonizes PML/p53-induced cellular senescence." Langley E., Pearson M., Faretta M., Bauer U.-M., Frye R.A., Minucci S., Pelicci P.G., Kouzarides T. EMBO J. 21:2383-2396(2002)
2. "Human SirT1 interacts with histone H1 and promotes formation of facultative heterochromatin." Vaquero A., Scher M., Lee D., Erdjument-Bromage H., Tempst P., Reinberg D. Mol. Cell 16:93-105(2004)

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