Data Sheet (Cat.No.TMAY-02042)

TargetMol

Anti-SIRT1 Antibody (3M383)

Product Details

Ig Type:	Mouse IgG1
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	3M383
Purification:	Protein A

Applications

Verified Activity:	1. Immunochemical staining of human SIRT1 in human lung cancer with mouse monoclonal antibody (1:1000, formalin-fixed paraffin embedded sections). 2. Immunofluorescence staining of SIRT1 in Hela cells. Cells were fixed with 4% PFA, permeabilzed with 0.3% Triton X-100 in PBS, blocked with 10% serum, and incubated with mouse anti-Human SIRT1 monoclonal antibody (1:60) at 4°C overnight. Then cells were stained with the Alexa Fluor® 488-conjugated Goat Anti-mouse IgG secondary antibody(green).
Application:	ELISA,ICC/IF,IHC-P
Recommended	ELISA: 1:1000-1:2000; IHC-P: 1:500-1:2000; ICC-IF: 1:20-1:100

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	Recombinant Protein: Human SIRT1 protein (TMPY-01869)
Antigen Species:	Human
Synonyms:	sirtuin 1;SIR2L1

Research Background

SIRT1 belongs to the sirtuin family. Members of the sirtuin family are characterized by a sirtuin core domain and grouped into four classes. SIRT1 is included in class I of the sirtuin family. It is a NAD-dependent protein deacetylase, which regulates processes such as apoptosis and muscle differentiation by deacetylating key proteins. It deacetylates 'Lys-382' of p53/TP53 and impairs its ability to induce proapoptotic program and modulate cell senescence. SIRT1 also deacetylates TAF1B and thereby represses rDNA transcription by the RNA polymerase I. It is involved in HES1- and HEY2-mediated transcriptional repression. SIRT1 inhibits skeletal muscle differentiation by deacetylating PCAF and MYOD1. It may serve as a sensor of the cytosolic ratio of NAD(+)/NADH, which is essential in skeletal muscle cell differentiation. It also deacetylates 'Lys-16' of histone H4 (in vitro). 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. The eNoSC complex is able to sense the energy status of cell: upon glucose starvation, elevation of NAD(+)/NADP(+) ratio activates SIRT1, leading to histone H3 deacetylation followed by dimethylation of H3 at 'Lys-9' (H3K9me2) by SUV39H1 and the formation of silent chromatin in the rDNA locus.

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