

Immunotag™ SIRT1 Monoclonal Antibody

Antibody Specification	
Catalog No.	ITM0578
Product Description	Immunotag™ SIRT1 Monoclonal Antibody
Size	50 µg, 100 µg
Conjugation	HRP, Biotin, FITC, Alexa Fluor® 350, Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 555, Alexa Fluor® 594, Alexa Fluor® 647
IMPORTANT NOTE	This product is custom manufactured with a lead time of 3-4 weeks. Once in production, this item cannot be cancelled from an order and is not eligible for return.
Target Protein	SIRT1
Clonality	Monoclonal
Storage/Stability	-20°C/1 year
Application	WB,IHC-p,IF,FCM,ELISA
Recommended Dilution	Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/200 - 1/1000. Immunofluorescence: 1/200 - 1/1000. Flow cytometry: 1/200 - 1/400. ELISA: 1/10000. Not yet tested in other applications.
Concentration	1 mg/ml
Reactive Species	Human,Monkey
Host Species	Mouse
Immunogen	Purified recombinant fragment of human SIRT1 expressed in E. Coli.
Specificity	SIRT1 Monoclonal Antibody detects endogenous levels of SIRT1 protein.
Purification	Affinity purification
Form	Ascitic fluid containing 0.03% sodium azide.
Gene Name	SIRT1
Accession No.	Q96EB6 Q923E4
Alternate Names	SIRT1; SIR2L1; NAD-dependent protein deacetylase sirtuin-1; hSIRT1; Regulatory protein SIR2 homolog 1; SIR2-like protein 1; hSIR2

Antibody Specification

Description	sirtuin 1(SIRT1) Homo sapiens 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],
Cell Pathway/ Category	Protein_Acetylation
Protein Expression	Brain,Epithelium,Prostate,Testis,
Subcellular Localization	nuclear chromatin,nucleus,nuclear envelope,nuclear inner membrane,nucleoplasm,chromatin silencing complex,nuclear euchromatin,nuclear heterochromatin,nucleolus,cytoplasm,mitochondrion,PML body,rDNA heterochromatin,
Protein 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- and HEY2-mediated transcriptional repression. Inhibits skeletal muscle differentiation by deacetylating PCAF and MYOD1. May serve as a sensor of the cytosolic ratio of NAD(+)/NADH, which is essential in skeletal muscle cell differentiation. Despite some ability to deacetylate histones in vitro, such activity is either weak or inexistent in vivo. In case of HIV-1 infection, interacts with and deacetylates the viral Tat protein.,miscellaneous:Red wine, which contains resveratrol, may participate in activation of sirtuin proteins, and may therefore participate in an extended lifespan as it has been observed in yeast.,similarity:Belongs to the sirtuin family.,similarity:Contains 1 deacetylase sirtuin-type domain.,subcellular location:Recruited to the nuclear bodies via its interaction with PML.,subunit:Interacts with TAF1B. Found in a complex with PCAF and MYOD1 (By similarity). Interacts with MLLT7/FOXO4, HES1, HEY2, p53/TP53 and PML. Interacts with RPS19BP1/AROS.,tissue specificity:Widely expressed.,
Usage	For Research Use Only! Not for diagnostic or therapeutic procedures.