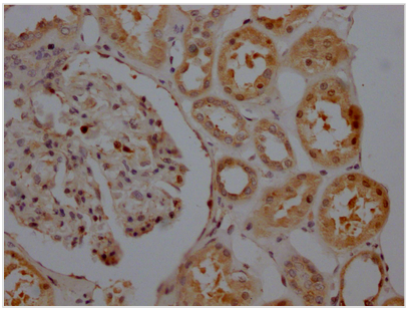
SIRT5 Recombinant Monoclonal Antibody

Product Code	CSB-RA156557A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q9NXA8
Immunogen	A synthesized peptide derived from human SIRT5
Species Reactivity	Human
Tested Applications	ELISA, IHC; Recommended dilution: IHC:1:50-1:200
Relevance	NAD-dependent lysine demalonylase, desuccinylase and deglutarylase that specifically removes malonyl, succinyl and glutaryl groups on target proteins (PubMed:21908771, PubMed:22076378, PubMed:24703693). Activates CPS1 and contributes to the regulation of blood ammonia levels during prolonged fasting: acts by mediating desuccinylation and deglutarylation of CPS1, thereby increasing CPS1 activity in response to elevated NAD levels during fasting (PubMed:22076378, PubMed:24703693). Activates SOD1 by mediating its desuccinylation, leading to reduced reactive oxygen species (PubMed:24140062). Modulates ketogenesis through the desuccinylation and activation of HMGCS2 (By similarity). Has weak NAD-dependent protein deacetylase activity; however this activity may not be physiologically relevant in vivo. Can deacetylate cytochrome c (CYCS) and a number of other proteins in vitro such as UOX.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Cancer; Cardiovascular; Metabolism
Gene Names	SIRT5
Clone No.	9H12
Image	



IHC image of CSB-RA156557A0HU diluted at 1:100 and staining in paraffin-embedded human kidney tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

The SIRT5 recombinant monoclonal antibody is developed using protein and DNA recombinant technologies. Initially, mice were immunized with a synthetic peptide derived from human SIRT5, followed by removal of the spleen under aseptic conditions. The total RNA of spleen cells was extracted and then synthesized into cDNA through RNA reverse transcription. The cDNA acted as a template for PCR amplification of the SIRT5 antibody gene. The SIRT5 antibody gene was incorporated into a vector and transfected into host cells for culture. The SIRT5 recombinant monoclonal antibody was then purified from the supernatant of cell culture using affinity chromatography. This antibody was rigorously verified and is suitable for detecting human SIRT5 protein in ELISA and IHC experiments.

The SIRT5 protein is a mitochondrial NAD-dependent deacetylase that plays a role in regulating the metabolism of amino acids and lipids. SIRT5 has been shown to target a number of different proteins for deacetylation, including enzymes involved in fatty acid oxidation, the urea cycle, and the tricarboxylic acid cycle. SIRT5 has also been implicated in the regulation of cellular responses to stress, such as oxidative stress and DNA damage.