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SIRT5 Antibody

Catalog # ASC11138

Product Information

Application	WB, E
Primary Accession	Q9NXA8
Other Accession	NP_036373, 6912664
Reactivity	Human, Mouse
Host	Chicken
Clonality	Polyclonal
Isotype	IgY
Calculated MW	33881
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SIRT5 antibody can be used for detection of SIRT5 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	23408
Other Names	NAD-dependent protein deacylase sirtuin-5, mitochondrial {ECO:0000255|HAMAP-Rule:MF_03160}, 3.5.1.- {ECO:0000255|HAMAP-Rule:MF_03160}, Regulatory protein SIR2 homolog 5 {ECO:0000255|HAMAP-Rule:MF_03160}, SIR2-like protein 5 {ECO:0000255|HAMAP-Rule:MF_03160}, SIRT5 {ECO:0000255|HAMAP-Rule:MF_03160}, SIR2L5
Target/Specificity	SIRT5;
Reconstitution & Storage	SIRT5 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SIRT5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SIRT5 {ECO:0000255|HAMAP-Rule:MF_03160}
Synonyms	SIR2L5
Function	NAD-dependent lysine demalonylase, desuccinylase and deglutarylase that specifically removes malonyl, succinyl and glutaryl groups on target proteins (PubMed:21908771, PubMed:22076378, PubMed:24703693, PubMed:29180469). 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). Activates SHMT2 by mediating its desuccinylation (PubMed:29180469). 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.
Cellular Location	Mitochondrion matrix. Mitochondrion intermembrane space. Cytoplasm, cytosol. Nucleus. Note=Mainly mitochondrial. Also present extramitochondrially, with a fraction present in the cytosol and very small amounts also detected in the nucleus [Isoform 2]: Mitochondrion {ECO:0000255|HAMAP- Rule:MF_03160, ECO:0000269|PubMed:21143562}
Tissue Location	Widely expressed..

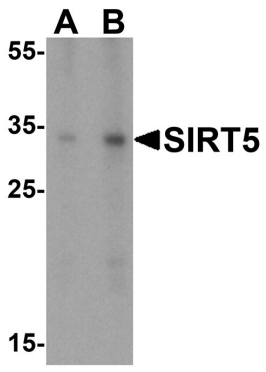
Background

SIRT5 Antibody: The Silent Information Regulator (SIR2) family of genes are highly conserved from prokaryotes to eukaryotes and have important functions in the regulation of metabolism, growth and differentiation, inflammation, cellular survival, as well as in senescence and lifespan extension. Sirtuins, including SIRT1-7, are human homologs of yeast Sir2p. Sirtuins are NAD+-dependent histone/protein deacetylases (HDAC) which regulate cellular metabolism, e.g. energy metabolism, and thereby are associated with aging and several age-related diseases. SIRT5 localizes to mitochondria, deacetylates carbamoyl phosphate synthetase 1, and is involved in the regulation of the urea cycle.

References

Salminen A. SIRT1: regulation of longevity via autophagy. Cell Signal2009; 21:1356-60.
Afshar G and Murnane JP. Characterization of a human gene with sequence homology to Saccharomyces cerevisiae Sir 2. Gene1999; 234:161-8.
Guarente L. Sirtuins as potential targets for metabolic syndrome. Nature2006; 444:868-74.
Vaziri H, Dessain SK, Ng Eaton E, et al. hSIR2 (SIRT1) functions as an NAD-dependent p53 deacetylase. Cell2001; 107:149-59.

Images



Western blot analysis of SIRT5 in A431 cell lysate with SIRT5 antibody at (A) 1 and (B) 2 µg/mL.