

**SIRT4 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2152a****Specification****SIRT4 Antibody - Product Information**

Application	WB, FC, ICC, E
Primary Accession	<a href="#">Q9Y6E7</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	35.2kDa KDa

**Description**

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 IV of the sirtuin family.

**Immunogen**

Purified recombinant fragment of human SIRT4 (AA: 215-314) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**SIRT4 Antibody - Additional Information**

**Gene ID** 23409

**Other Names**

NAD-dependent protein deacetylase sirtuin-4 {ECO:0000255|HAMAP-Rule:MF\_03161}, 3.5.1.- {ECO:0000255|HAMAP-Rule:MF\_03161}, NAD-dependent ADP-ribosyltransferase sirtuin-4 {ECO:0000255|HAMAP-Rule:MF\_03161}, 2.4.2.- {ECO:0000255|HAMAP-Rule:MF\_03161}, Regulatory protein SIR2 homolog 4 {ECO:0000255|HAMAP-Rule:MF\_03161}, SIR2-like protein 4 {ECO:0000255|HAMAP-Rule:MF\_03161}, SIRT4 {ECO:0000255|HAMAP-Rule:MF\_03161}, SIR2L4

**Dilution**

WB~~1/500 - 1/2000  
FC~~1/200 - 1/400  
ICC~~N/A  
E~~1/10000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

## Precautions

SIRT4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## SIRT4 Antibody - Protein Information

**Name** SIRT4 {ECO:0000255|HAMAP-Rule:MF\_03161, ECO:0000312|HGNC:HGNC:14932}

### Function

Acts as a NAD-dependent protein lipoamidase, biotinylase, deacetylase and ADP-ribosyl transferase (PubMed:<a href="http://www.uniprot.org/citations/16959573" target="\_blank">16959573</a>, PubMed:<a href="http://www.uniprot.org/citations/17715127" target="\_blank">17715127</a>, PubMed:<a href="http://www.uniprot.org/citations/24052263" target="\_blank">24052263</a>, PubMed:<a href="http://www.uniprot.org/citations/25525879" target="\_blank">25525879</a>). Catalyzes more efficiently removal of lipoyl- and biotinyl- than acetyl-lysine modifications (PubMed:<a href="http://www.uniprot.org/citations/24052263" target="\_blank">24052263</a>, PubMed:<a href="http://www.uniprot.org/citations/25525879" target="\_blank">25525879</a>). Inhibits the pyruvate dehydrogenase complex (PDH) activity via the enzymatic hydrolysis of the lipoamide cofactor from the E2 component, DLAT, in a phosphorylation-independent manner (PubMed:<a href="http://www.uniprot.org/citations/25525879" target="\_blank">25525879</a>). Catalyzes the transfer of ADP-ribosyl groups onto target proteins, including mitochondrial GLUD1, inhibiting GLUD1 enzyme activity (PubMed:<a href="http://www.uniprot.org/citations/16959573" target="\_blank">16959573</a>, PubMed:<a href="http://www.uniprot.org/citations/17715127" target="\_blank">17715127</a>). Acts as a negative regulator of mitochondrial glutamine metabolism by mediating mono ADP-ribosylation of GLUD1: expressed in response to DNA damage and negatively regulates anaplerosis by inhibiting GLUD1, leading to block metabolism of glutamine into tricarboxylic acid cycle and promoting cell cycle arrest (PubMed:<a href="http://www.uniprot.org/citations/16959573" target="\_blank">16959573</a>, PubMed:<a href="http://www.uniprot.org/citations/17715127" target="\_blank">17715127</a>). In response to mTORC1 signal, SIRT4 expression is repressed, promoting anaplerosis and cell proliferation (PubMed:<a href="http://www.uniprot.org/citations/23663782" target="\_blank">23663782</a>). Acts as a tumor suppressor (PubMed:<a href="http://www.uniprot.org/citations/23562301" target="\_blank">23562301</a>, PubMed:<a href="http://www.uniprot.org/citations/23663782" target="\_blank">23663782</a>). Also acts as a NAD-dependent protein deacetylase: mediates deacetylation of 'Lys-471' of MLYCD, inhibiting its activity, thereby acting as a regulator of lipid homeostasis (By similarity). Does not seem to deacetylate PC (PubMed:<a href="http://www.uniprot.org/citations/23438705" target="\_blank">23438705</a>). Controls fatty acid oxidation by inhibiting PPARA transcriptional activation (PubMed:<a href="http://www.uniprot.org/citations/24043310" target="\_blank">24043310</a>). Impairs SIRT1-PPARA interaction probably through the regulation of NAD(+) levels (PubMed:<a href="http://www.uniprot.org/citations/24043310" target="\_blank">24043310</a>). Down-regulates insulin secretion (PubMed:<a href="http://www.uniprot.org/citations/17715127" target="\_blank">17715127</a>).

### Cellular Location

Mitochondrion matrix {ECO:0000255|HAMAP- Rule:MF\_03161, ECO:0000269|PubMed:16079181, ECO:0000269|PubMed:16959573, ECO:0000269|PubMed:17715127}

### Tissue Location

Detected in vascular smooth muscle and striated muscle. Detected in insulin-producing beta-cells in pancreas islets of Langerhans (at protein level). Widely expressed. Weakly expressed in leukocytes and fetal thymus.

## SIRT4 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)