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SIRT4 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP18208a

Specification

SIRT4 Antibody (N-term) - Product Information

Application	**WB,E**
Primary Accession	Q9Y6E7
Other Accession	Q1JQC6, NP_036372.1
Reactivity	**Human, Mouse**
Predicted	**Bovine**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**35188**
Antigen Region	**67-95**

SIRT4 Antibody (N-term) - Additional Information

Gene ID 23409

Other Names
NAD-dependent protein deacetylase sirtuin-4 {ECO:0000255|HAMAP-Rule:MF_03161}, 351- {ECO:0000255|HAMAP-Rule:MF_03161}, NAD-dependent ADP-ribosyltransferase sirtuin-4 {ECO:0000255|HAMAP-Rule:MF_03161}, 242- {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

Target/Specificity
This SIRT4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 67-95 amino acids from the N-terminal region of human SIRT4.

Dilution
WB~~1:1000
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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

Precautions
SIRT4 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

SIRT4 Antibody (N-term) - 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:16959573, PubMed:17715127, PubMed:24052263, PubMed:25525879). Catalyzes more efficiently removal of lipoyl- and biotinyl- than acetyl-lysine modifications (PubMed:24052263, PubMed:25525879). 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:25525879). Catalyzes the transfer of ADP-ribosyl groups onto target proteins, including mitochondrial GLUD1, inhibiting GLUD1 enzyme activity (PubMed:16959573, PubMed:17715127). 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:16959573, PubMed:17715127). In response to mTORC1 signal, SIRT4 expression is repressed, promoting anaplerosis and cell proliferation (PubMed:23663782). Acts as a tumor suppressor (PubMed:23562301, PubMed:23663782). 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:23438705). Controls fatty acid oxidation by inhibiting PPARA transcriptional activation (PubMed:24043310). Impairs SIRT1-PPARA interaction probably through the regulation of NAD(+) levels (PubMed:24043310). Down-regulates insulin secretion (PubMed:17715127).

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 (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SIRT4 Antibody (N-term) - Images

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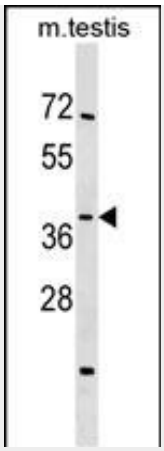

SIRT4 Antibody (N-term) (Cat. #AP18208a) western blot analysis in mouse testis tissue lysates (35ug/lane).This demonstrates the SIRT4 antibody detected the SIRT4 protein (arrow).

SIRT4 Antibody (N-term) - Background

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.

SIRT4 Antibody (N-term) - References

Reiling, E., et al. Eur. J. Hum. Genet. 17(8):1056-1062(2009)
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Yamamoto, H., et al. Mol. Endocrinol. 21(8):1745-1755(2007)
Haigis, M.C., et al. Cell 126(5):941-954(2006)
Scherer, S.E., et al. Nature 440(7082):346-351(2006)