

LIAS (S-24): sc-133739

BACKGROUND

Lipoic acid is a potent antioxidant and a coenzyme that is essential for the activity of many central metabolic enzymes, such as the pyruvate dehydrogenase (PDH) complex, 2-oxoglutarate dehydrogenase (OGDH) complex and branched chain oxoacid dehydrogenase (BCDH) complex. It contains two vicinal sulfur atoms at C6 and C8 that are attached via a disulfide bond, which lead to its oxidated state. LIAS (Lipoyl synthase), also known as Lipoic acid synthase, is a 372 amino acid protein that inserts sulfurs onto the precursor octanoate, thereby synthesizing lipoic acid. Localized to the mitochondria, LIAS is expressed in liver, heart and testis. In mice, LIAS-deficiency enhances atherosclerosis, which is partly due to reduced antioxidant capacity. This does not occur in female mice, suggesting that there is a gender-specific protection mechanism.

REFERENCES

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- Yi, X., Xu, L., Kim, K., Kim, H.S. and Maeda, N. 2010. Genetic reduction of lipoic acid synthase expression modestly increases atherosclerosis in male, but not in female, apolipoprotein E-deficient mice. *Atherosclerosis* 211: 424-430.

CHROMOSOMAL LOCATION

Genetic locus: LIAS (human) mapping to 4p14; Lias (mouse) mapping to 5 C3.1.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

SOURCE

LIAS (S-24) is an affinity purified rabbit polyclonal antibody raised against synthetic LIAS peptide of human origin.

PRODUCT

Each vial contains 50 μ g IgG in 500 μ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

LIAS (S-24) is recommended for detection of LIAS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LIAS siRNA (h): sc-88901, LIAS siRNA (m): sc-146724, LIAS shRNA Plasmid (h): sc-88901-SH, LIAS shRNA Plasmid (m): sc-146724-SH, LIAS shRNA (h) Lentiviral Particles: sc-88901-V and LIAS shRNA (m) Lentiviral Particles: sc-146724-V.

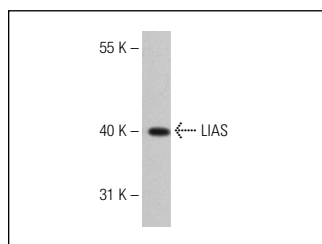
Molecular Weight of LIAS: 42 kDa.

Positive Controls: LN18 whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



LIAS (S-24): sc-133739. Western blot analysis of LIAS expression in LN18 whole cell lysate.

RESEARCH USE

For research use only, not for use in diagnostic procedures.