

LysRS (H-300): sc-98559

BACKGROUND

The fidelity of protein synthesis requires efficient discrimination of amino acid substrates by aminoacyl-tRNA synthetases. Aminoacyl-tRNA synthetases function to catalyze the aminoacylation of tRNAs by their corresponding amino acids, thus linking amino acids with tRNA-contained nucleotide triplets. LysRS (lysyl-tRNA synthetase), also known as KARS, KRS or KARS2, exists as both mitochondrial and cytoplasmic isoforms (625 and 576 amino acids, respectively) that belong to the tRNA synthetase family and are thought to play a role in autoimmune diseases, such as polymyositis or dermatomyositis. The gene encoding LysRS maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome.

REFERENCES

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3. Tolkunova, E., et al. 2000. The human lysyl-tRNA synthetase gene encodes both the cytoplasmic and mitochondrial enzymes by means of an unusual alternative splicing of the primary transcript. *J. Biol. Chem.* 275: 35063-35069.
4. Maas, S., et al. 2001. Genomic clustering of tRNA-specific adenosine deaminase ADAT1 and two tRNA synthetases. *Mamm. Genome* 12: 387-393.
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7. Kawamata, H., et al. 2008. Lysyl-tRNA synthetase is a target for mutant SOD-1 toxicity in mitochondria. *J. Biol. Chem.* 283: 28321-28328.
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CHROMOSOMAL LOCATION

Genetic locus: KARS (human) mapping to 16q23.1; Kars (mouse) mapping to 8 E1.

SOURCE

LysRS (H-300) is a rabbit polyclonal antibody raised against amino acids 22-321 mapping near the N-terminus of LysRS of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LysRS (H-300) is recommended for detection of LysRS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

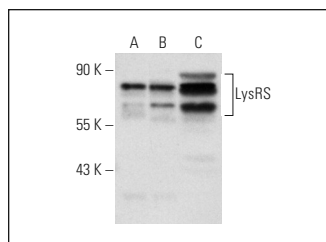
LysRS (H-300) is also recommended for detection of LysRS in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for LysRS siRNA (h): sc-75718, LysRS siRNA (m): sc-75719, LysRS shRNA Plasmid (h): sc-75718-SH, LysRS shRNA Plasmid (m): sc-75719-SH, LysRS shRNA (h) Lentiviral Particles: sc-75718-V and LysRS shRNA (m) Lentiviral Particles: sc-75719-V.

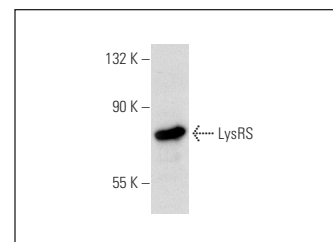
Molecular Weight of LysRS: 68 kDa.

Positive Controls: LysRS (m2): 293T Lysate: sc-121459, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

DATA



LysRS (H-300): sc-98559. Western blot analysis of LysRS expression in non-transfected 293T: sc-117752 (A), mouse LysRS transfected 293T: sc-121459 (B) and NIH/3T3 (C) whole cell lysates.



LysRS (H-300): sc-98559. Western blot analysis of LysRS expression in HeLa whole cell lysate.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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



Try **LysRS (A-10): sc-271331** or **LysRS (D-4): sc-393645**, our highly recommended monoclonal alternatives to LysRS (H-300).