SANTA CRUZ BIOTECHNOLOGY, INC.

LeuRS (E-25): sc-130801

BACKGROUND

Cytoplasmic leucyl-tRNA synthetase (LeuRS), also known as Leucine-tRNA ligase or LARS, is a 1176 amino acid protein belonging to the class-I aminoacyl-tRNA synthetase family. Localized to the cytoplasm, LeuRS functions primarily in aminoacylation, ATP binding and RNA splicing. The primary structure that facilitates these roles is the C-terminal domain extension, which is indispensable for the interaction of LeuRS with other molecules, such as cytosolic arginyl-tRNA synthetase. The gene encoding LeuRS maps to chromosome 5q32. Chromosome 5 encodes 6% of human genomic DNA and is associated with Cockayne syndrome and familial adenomatous polyposis.

REFERENCES

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2. Karkhanis, V.A., et al. 2006. A viable amino acid editing activity in the leucyl-tRNA synthetase CP1-splicing domain is not required in the yeast mitochondria. J. Biol. Chem. 281: 33217-33225.
3. Zhai, Y., et al. 2007. Modulation of substrate specificity within the amino acid editing site of leucyl-tRNA synthetase. Biochemistry 46: 3331-3337.
4. Lue, S.W., et al. 2007. A single residue in leucyl-tRNA synthetase affecting amino acid specificity and tRNA aminoacylation. Biochemistry 46: 4466-4472.
5. Nawaz, M.H., et al. 2007. Molecular and functional dissection of a putative RNA-binding region in yeast mitochondrial leucyl-tRNA synthetase. J. Mol. Biol. 367: 384-394.
6. Rock, F.L., et al. 2007. An antifungal agent inhibits an aminoacyl-tRNA synthetase by trapping tRNA in the editing site. Science 316: 1759-1761.
7. Yao, P., et al. 2008. Unique residues crucial for optimal editing in yeast cytoplasmic Leucyl-tRNA synthetase are revealed by using a novel knockout yeast strain. J. Biol. Chem. 283: 22591-22600.
8. Hsu, J.L., et al. 2008. A Flexible peptide tether controls acces-sibility of a unique C-terminal RNA-binding domain in leucyl-tRNA synthetases. J. Mol. Biol. 376: 482-491.
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CHROMOSOMAL LOCATION

Genetic locus: LARS (human) mapping to 5q32.

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.

SOURCE

LeuRS (E-25) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of LeuRS of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

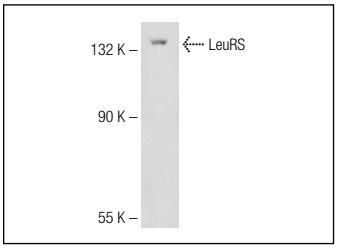
LeuRS (E-25) is recommended for detection of LeuRS of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LeuRS siRNA (h): sc-75416, LeuRS shRNA Plasmid (h): sc-75416-SH and LeuRS shRNA (h) Lentiviral Particles: sc-75416-V.

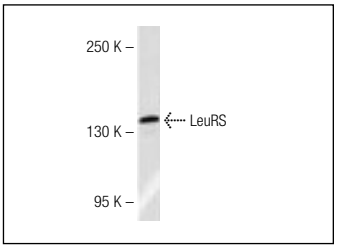
Molecular Weight of LeuRS: 134 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or 293 whole cell lysate.

DATA



LeuRS (E-25): sc-130801. Western blot analysis of LeuRS expression in Jurkat whole cell lysate.



LeuRS (E-25): sc-130801. Western blot analysis of LeuRS expression in 293 whole cell lysate.

PROTOCOLS

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