SANTA CRUZ BIOTECHNOLOGY, INC.

FARSLA (C-21): sc-130584

BACKGROUND

Aminoacyl-tRNA synthetases consist of a family of enzymes that catalyze the specific aminoacylation of tRNA by their cognate amino acid in the initial step of ribosome-dependent protein biosynthesis. FARSLA, also known as FRSA, CML33, FARSL or PheHA (phenylalanyl-tRNA synthetase, α subunit), is a member of the class-II aminoacyl-tRNA synthetase family and is highly expressed in proliferating cells of bone marrow. FARSLA is a cytoplasmic phenylalanine-tRNA synthetase that functions as a heterodimer consisting of a catalytic α-subunit and a regulatory β-subunit. The α-subunit is responsible for forming the amino acid binding pocket, mediating the ATP/aminoacyl adenylate binding, and interacts with the acceptor stem of the tRNA. FARSLA functions in a cell cycle-dependent and differentiation-dependent manner.

REFERENCES

1. Ibba, M., et al. 1995. Increased rates of tRNA charging through modification of the enzyme-aminoacyl-adenylate complex of phenylalanyl-tRNA synthetase. FEBS Lett. 358: 293-296.
2. Aphasizhev, R., et al. 1996. Conservation in evolution for a small monomeric phenylalanyl-tRNA synthetase of the tRNA(Phe) recognition nucleotides and initial aminoacylation site. Biochemistry 35: 117-123.
3. Sen, S., et al. 1997. Expression of a gene encoding a tRNA synthetase-like protein is enhanced in tumorigenic human myeloid leukemia cells and is cell cycle stage- and differentiation-dependent. Proc. Natl. Acad. Sci. USA 94: 6164-6169.
4. Zhou, X., et al. 1999. Cloning of the cDNA encoding phenylalanyl tRNA synthetase regulatory α-subunit-like protein whose expression is down-regulated during differentiation. Gene 233: 13-19.
5. Rodova, M., et al. 1999. Human phenylalanyl-tRNA synthetase: cloning, characterization of the deduced amino acid sequences in terms of the structural domains and coordinately regulated expression of the α and β subunits in chronic myeloid leukemia cells. Biochem. Biophys. Res. Commun. 255: 765-773.
6. Moor, N., et al. 2002. Cloning and expression of human phenylalanyl-tRNA synthetase in *Escherichia coli*: comparative study of purified recombinant enzymes. Protein Expr. Purif. 24: 260-267.
7. Moor, N., et al. 2003. Prokaryotic and eukaryotic tetrameric phenylalanyl-tRNA synthetases display conservation of the binding mode of the tRNA(Phe) CCA end. Biochemistry 42: 10697-10708.

CHROMOSOMAL LOCATION

Genetic locus: FARSA (human) mapping to 19p13.13.

SOURCE

FARSLA (C-21) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of FARSLA of human origin.

RESEARCH USE

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

PRODUCT

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

APPLICATIONS

FARSLA (C-21) is recommended for detection of FARSLA 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FARSLA siRNA (h): sc-97718, FARSLA shRNA Plasmid (h): sc-97718-SH and FARSLA shRNA (h) Lentiviral Particles: sc-97718-V.

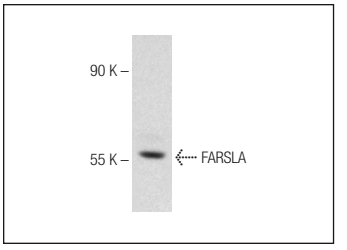
Molecular Weight of FARSLA: 55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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



FARSLA (C-21): sc-130584. Western blot analysis of FARSLA 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.

PROTOCOLS

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