SANTA CRUZ BIOTECHNOLOGY, INC.

FARSLA (E-15): sc-240444

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 19p13.2; Farsa (mouse) mapping to 8 C3.

SOURCE

FARSLA (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FARSLA of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-240444 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FARSLA (E-15) is recommended for detection of FARSLA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with FARSLB.

FARSLA (E-15) is also recommended for detection of FARSLA in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for FARSLA siRNA (h): sc-97718, FARSLA siRNA (m): sc-145073, FARSLA shRNA Plasmid (h): sc-97718-SH, FARSLA shRNA Plasmid (m): sc-145073-SH, FARSLA shRNA (h) Lentiviral Particles: sc-97718-V and FARSLA shRNA (m) Lentiviral Particles: sc-145073-V.

Molecular Weight of FARSLA: 55 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.