

ProRS (T-23): sc-130855

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. ProRS (prolyl-tRNA synthetase), also known as EPRS, EARS, PARS, QARS, QPRS, PIG32 or GLUPRORS, is a 1,512 amino acid protein that contains three WHEP-TRS domains and belongs to both the class-I and class-II aminoacyl-tRNA synthetase family. Functioning as a component of the multi-synthase complex, ProRS uses ATP to catalyze the conversion of L-glutamate and tRNA^{Glu} to L-glutamyl-tRNA^{Glu}, as well as the conversion of L-proline and tRNA^{Pro} to L-prolyl-tRNA^{Pro}.

REFERENCES

1. Kunze, N., et al. 1990. The human QARS locus: assignment of the human gene for glutamyl-tRNA synthetase to chromosome 1q32-42. *Hum. Genet.* 85: 527-530.
2. Kaiser, E., et al. 1994. The human EPRS locus (formerly the QARS locus): a gene encoding a class I and a class II aminoacyl-tRNA synthetase. *Genomics* 19: 280-290.
3. Rho, S.B., et al. 1998. A multifunctional repeated motif is present in human bifunctional tRNA synthetase. *J. Biol. Chem.* 273: 11267-11273.
4. Quevillon, S., et al. 1999. Macromolecular assemblage of aminoacyl-tRNA synthetases: identification of protein-protein interactions and characterization of a core protein. *J. Mol. Biol.* 285: 183-195.
5. Jeong, E.J., et al. 2000. Structural analysis of multifunctional peptide motifs in human bifunctional tRNA synthetase: identification of RNA-binding residues and functional implications for tandem repeats. *Biochemistry* 39: 15775-15782.

CHROMOSOMAL LOCATION

Genetic locus: EPRS (human) mapping to 1q41.

SOURCE

ProRS (T-23) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of ProRS of human origin.

PRODUCT

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

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.

APPLICATIONS

ProRS (T-23) is recommended for detection of ProRS 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 ProRS siRNA (h): sc-76254, ProRS shRNA Plasmid (h): sc-76254-SH and ProRS shRNA (h) Lentiviral Particles: sc-76254-V.

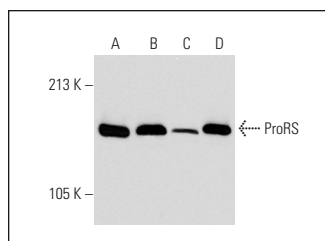
Molecular Weight of ProRS: 172 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, PANC-1 whole cell lysate: sc-364380 or HeLa whole cell lysate: sc-2200.

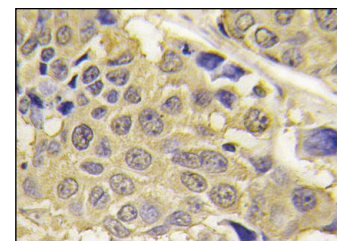
RECOMMENDED SECONDARY REAGENTS

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



ProRS (T-23): sc-130855. Western blot analysis of ProRS expression in HEK293 (A), PANC-1 (B), U-251-MG (C) and HeLa (D) whole cell lysates.



ProRS (T-23): sc-130855. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic localization.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **ProRS (A-2): sc-393505** or **ProRS (F-3): sc-514407**, our highly recommended monoclonal alternatives to ProRS (T-23).