

# ProRS (A-2): sc-393505

## 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 multisynthase complex, ProRS uses ATP to catalyze the conversion of L-glutamate and tRNA<sup>Glu</sup> to L-glutamyl-tRNA<sup>Glu</sup>, as well as the conversion of L-proline and tRNA<sup>Pro</sup> to L-prolyl-tRNA<sup>Pro</sup>.

## CHROMOSOMAL LOCATION

Genetic locus: EPRS (human) mapping to 1q41; Eprs (mouse) mapping to 1 H5.

## SOURCE

ProRS (A-2) is a mouse monoclonal antibody raised against amino acids 1213-1512 mapping at the C-terminus of ProRS of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ProRS (A-2) is available conjugated to agarose (sc-393505 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393505 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393505 PE), fluorescein (sc-393505 FITC), Alexa Fluor® 488 (sc-393505 AF488), Alexa Fluor® 546 (sc-393505 AF546), Alexa Fluor® 594 (sc-393505 AF594) or Alexa Fluor® 647 (sc-393505 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393505 AF680) or Alexa Fluor® 790 (sc-393505 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

ProRS (A-2) is recommended for detection of ProRS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 siRNA (m): sc-76255, ProRS shRNA Plasmid (h): sc-76254-SH, ProRS shRNA Plasmid (m): sc-76255-SH, ProRS shRNA (h) Lentiviral Particles: sc-76254-V and ProRS shRNA (m) Lentiviral Particles: sc-76255-V.

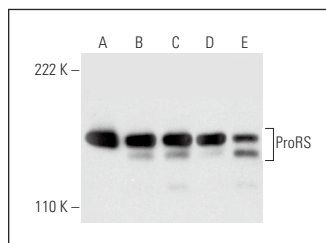
Molecular Weight of ProRS: 172 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or PANC-1 whole cell lysate: sc-364380.

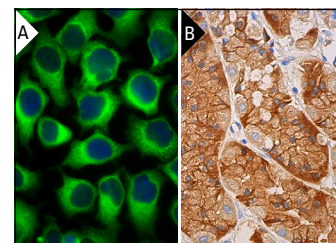
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



ProRS (A-2): sc-393505. Western blot analysis of ProRS expression in Jurkat (A), HeLa (B), PANC-1 (C), HEK293 (D) and U-251-MG (E) whole cell lysates.



ProRS (A-2): sc-393505. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic localization. Note DAPI nuclear counterstain from UltraCruz® Hard-set Mounting Medium: sc-359850 (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic and membrane staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Schwarz, M.A., et al. 2018. Aminoacyl tRNA synthetase complex interacting multifunctional protein 1 simultaneously binds glutamyl-prolyl-tRNA synthetase and scaffold protein aminoacyl tRNA synthetase complex interacting multifunctional protein 3 of the multi-tRNA synthetase complex. *Int. J. Biochem. Cell Biol.* 99: 197-202.
- Jeong, S.J., et al. 2019. A threonyl-tRNA synthetase-mediated translation initiation machinery. *Nat. Commun.* 10: 1357.

## 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](http://www.scbt.com) for detailed protocols and support products.

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