

## PheRS (P-18): sc-79271

### 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. PheRS (phenylalanyl-tRNA synthetase 2, mitochondrial), also known as FARS2, is a 451 amino acid mitochondrial matrix protein that belongs to the class II aminoacyl-tRNA synthetase family. Functioning as a monomer, PheRS catalyzes the ATP-dependent conversion of L-phenylalanine and tRNA(Phe) to L-phenylalanyl-tRNA(Phe), an event that is crucial for proper translation and protein expression. The gene encoding PheRS maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome.

### REFERENCES

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5. Ling, J., Yadavalli, S.S. and Ibba, M. 2007. Phenylalanyl-tRNA synthetase editing defects result in efficient mistranslation of phenylalanine codons as tyrosine. *RNA* 13: 1881-1886.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611592. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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### CHROMOSOMAL LOCATION

Genetic locus: FARS2 (human) mapping to 6p25.1; Fars2 (mouse) mapping to 13 A3.3.

### 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

PheRS (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PheRS of human origin.

### 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-79271 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PheRS (P-18) is recommended for detection of PheRS 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).

PheRS (P-18) is also recommended for detection of PheRS in additional species, including equine and canine.

Suitable for use as control antibody for PheRS siRNA (h): sc-76115, PheRS siRNA (m): sc-76116, PheRS shRNA Plasmid (h): sc-76115-SH, PheRS shRNA Plasmid (m): sc-76116-SH, PheRS shRNA (h) Lentiviral Particles: sc-76115-V and PheRS shRNA (m) Lentiviral Particles: sc-76116-V.

Molecular Weight of PheRS: 48 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285.

### 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.