

# PSTK (E-12): sc-139031

## 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. PSTK (phosphoserine-tRNA kinase), also known as L-seryl-tRNA(Sec) kinase, is a 348 amino acid enzyme belonging to the L-seryl-tRNA(Sec) kinase family. An essential RNA-dependent kinase, PSTK plays a role in aminoacyl-tRNA synthesis and the biosynthesis of selenocysteine, the 21st natural amino acid. Utilizing magnesium as a cofactor, PSTK converts seryl-tRNA(Sec) to O-phosphoserine-tRNA(Sec), the immediate precursor of selenocysteinyl-tRNA(Sec). PSTK exists as two alternatively spliced isoforms and is encoded by a gene mapping to human chromosome 10q26.13.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: PSTK (human) mapping to 10q26.13.

## SOURCE

PSTK (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PSTK 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-139031 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PSTK (E-12) is recommended for detection of PSTK isoforms 1 and 2 of 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).

Suitable for use as control antibody for PSTK siRNA (h): sc-90790, PSTK shRNA Plasmid (h): sc-90790-SH and PSTK shRNA (h) Lentiviral Particles: sc-90790-V.

Molecular Weight of PSTK: 40 kDa.

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