



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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## TrpRS (m): 293T Lysate: sc-124308

### BACKGROUND

Tryptophanyl-tRNA synthetases are essential enzymes that catalyze the aminoacylation of tRNA (Trp) with tryptophan, an essential function of the cell's protein synthesis machinery. Two forms of tryptophanyl-tRNA synthetase exist: a cytoplasmic form, named TrpRS (also known as WARS), and a mitochondrial form, named WARS2. In normal cells, human TrpRS exists as a full length form and as a truncated form, designated mini TrpRS, which is produced by alternative splicing. Expression of mini TrpRs is highly stimulated in human cells by the addition of IFN $\gamma$ . Although both human full-length TrpRS and mini TrpRS are enzymatically active in aminoacylation, they differ in angiostatic activity. The gene encoding human TrpRS maps to chromosome 14q32.2 and the gene encoding human WARS2 maps to chromosome 1p12. The first 18 amino acids of WARS2 constitute the mitochondrial localization signal sequence.

### REFERENCES

1. Jorgensen, R., Sogaard, T.M., Rossing, A.B., Martensen, P.M. and Justesen, J. 2000. Identification and characterization of human mitochondrial tryptophanyl-tRNA synthetase. *J. Biol. Chem.* 275: 16820-16826.
2. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604733. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Wakasugi, K., Slike, B.M., Hood, J., Otani, A., Ewalt, K.L., Friedlander, M., Cheresh, D.A. and Schimmel, P. 2002. A human aminoacyl-tRNA synthetase as a regulator of angiogenesis. *Proc. Natl. Acad. Sci. USA* 99: 173-177.
4. Otani, A., Slike, B.M., Dorrell, M.I., Hood, J., Kinder, K., Ewalt, K.L., Cheresh, D., Schimmel, P. and Friedlander, M. 2002. A fragment of human TrpRS as a potent antagonist of ocular angiogenesis. *Proc. Natl. Acad. Sci. USA* 99: 178-183.
5. Yang, X.L., Schimmel, P. and Ewalt, K.L. 2004. Relationship of two human tRNA synthetases used in cell signaling. *Trends Biochem. Sci.* 29: 250-256.

### CHROMOSOMAL LOCATION

Genetic locus: Wars (mouse) mapping to 12 F1.

### PRODUCT

TrpRS (m): 293T Lysate represents a lysate of mouse TrpRS transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

### APPLICATIONS

TrpRS (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive TrpRS antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

### STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

### RESEARCH USE

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

### PROTOCOLS

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