SANTA CRUZ BIOTECHNOLOGY, INC.

THNSL1 siRNA (h): sc-90396

BACKGROUND

Threonine is one of nine essential amino acids that cannot be synthesized by humans and must be supplied in the diet. THNSL1 (threonine synthase-like 1), also known as TSH1, is a 743 amino acid member of the serine/threonine dehydratase family. Expressed primarily in brain and endocrine glands, THNSL1 is thought to function as a pyridoxal-5'-phosphate (PLP)-dependent enzyme that uses pyridoxal phosphate as a cofactor. THNSL1 shares similarity with bacterial threonine synthases (which synthesize threonine from aspartic acid), suggesting that THNSL1 may have once participated in *de novo* threonine synthesis within the body, but has since lost its original metabolic role.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611260. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Donini, S., Percudani, R., Credali, A., Montanini, B., Sartori, A. and Peracchi, A. 2006. A threonine synthase homolog from a mammalian genome. Biochem. Biophys. Res. Commun. 350: 922-928.
3. Suzuki, E., Imoto, I., Pimkhaokham, A., Nakagawa, T., Kamata, N., Kozaki, K.I., Amagasa, T. and Inazawa, J. 2007. PRTFDC1, a possible tumor-suppressor gene, is frequently silenced in oral squamous-cell carcinomas by aberrant promoter hypermethylation. Oncogene 26: 7921-7932.
4. Xu, C.S. and Chang, C.F. 2008. Expression profiles of the genes associated with metabolism and transport of amino acids and their derivatives in rat liver regeneration. Amino Acids 34: 91-9102.

CHROMOSOMAL LOCATION

Genetic locus: THNSL1 (human) mapping to 10p12.1.

PRODUCT

THNSL1 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see THNSL1 shRNA Plasmid (h): sc-90396-SH and THNSL1 shRNA (h) Lentiviral Particles: sc-90396-V as alternate gene silencing products.

For independent verification of THNSL1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-90396A, sc-90396B and sc-90396C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

THNSL1 siRNA (h) is recommended for the inhibition of THNSL1 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

THNSL1 (77-Y): sc-100587 is recommended as a control antibody for monitoring of THNSL1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor THNSL1 gene expression knockdown using RT-PCR Primer: THNSL1 (h)-PR: sc-90396-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.