SANTA CRUZ BIOTECHNOLOGY, INC.

TYSND1 siRNA (h): sc-90690

BACKGROUND

TYSND1 (Trypsin domain containing 1), a member of the peptidase S1B family, is a 566 amino acid protein that is synthesized in the cytosol and is localized to the peroxisome where it exists as two proteolytically cleaved peptides. Functioning as a peroxisomal protease, TYSND1 participates in controlling the peroxisomal β-oxidation of fatty acids and also mediates both the removal of the leader peptide from proteins containing a PTS2 target sequence and the specific processing of PTS1 proteins. The gene encoding TYSND1 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Subramani, S. 1996. Convergence of model systems for peroxisome biogenesis. Curr. Opin. Cell Biol. 8: 513-518.
2. Alimova-Kost, M.V., Imreh, S., Buchman, V.L. and Ninkina, N.N. 1998. Assignment1 of phosphotriesterase-related gene (PTER) to human chromosome band 10p12 by *in situ* hybridization. Cytogenet. Cell Genet. 83: 16-17.
3. Berger, P., Young, P. and Suter, U. 2002. Molecular cell biology of Charcot-Marie-Tooth disease. Neurogenetics 4: 1-15.
4. Nonneman, D. and Rohrer, G.A. 2004. Comparative mapping of human chromosome 10 to pig chromosomes 10 and 14. Anim. Genet. 35: 338-343.
5. Kurochkin, I.V., Nagashima, T., Konagaya, A. and Schönbach, C. 2005. Sequence-based discovery of the human and rodent peroxisomal proteome. Appl. Bioinformatics 4: 93-104.

CHROMOSOMAL LOCATION

Genetic locus: TYSND1 (human) mapping to 10q22.1.

PRODUCT

TYSND1 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 TYSND1 shRNA Plasmid (h): sc-90690-SH and TYSND1 shRNA (h) Lentiviral Particles: sc-90690-V as alternate gene silencing products.

For independent verification of TYSND1 (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-90690A, sc-90690B and sc-90690C.

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.

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

TYSND1 siRNA (h) is recommended for the inhibition of TYSND1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TYSND1 gene expression knockdown using RT-PCR Primer: TYSND1 (h)-PR: sc-90690-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.