

# TMED1 siRNA (h): sc-97103

## BACKGROUND

TMED1 (transmembrane emp24 protein transport domain containing 1), also known as ST2L, IL1RL1 or IL1RL1LG, is a 227 amino acid member of the EMP24/GP25L family. Widely expressed, TMED1 is a single-pass type I membrane protein containing one GOLD domain. Associated with membrane proteins, the GOLD (golgi dynamics) domain is a region of about 90 to 150 amino acids that mediates protein-protein interactions. The GOLD domain interacts with lipid, sterol or fatty acid-domains as well as with the RUN domain, which interacts with cytoskeletal filaments, of membrane proteins. Suggested to play a role in protein trafficking, TMED1 is encoded by a gene located on human chromosome 19, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes.

## REFERENCES

1. Schimmöller, F., et al. 1995. The absence of Emp24p, a component of ER-derived COPII-coated vesicles, causes a defect in transport of selected proteins to the Golgi. *EMBO J.* 14: 1329-1339.
2. Dominguez, M., et al. 1998. gp25L/emp24/p24 protein family members of the *cis*-Golgi network bind both COP I and II coatomer. *J. Cell Biol.* 140: 751-765.
3. Nakamura, N., et al. 1998. Identification of potential regulatory elements for the transport of Emp24p. *Mol. Biol. Cell.* 9: 3493-3503.
4. Ciuffo, L.F. and Boyd, A. 2000. Identification of a luminal sequence specifying the assembly of Emp24p into p24 complexes in the yeast secretory pathway. *J. Biol. Chem.* 275: 8382-8388.

## CHROMOSOMAL LOCATION

Genetic locus: TMED1 (human) mapping to 19p13.2.

## PRODUCT

TMED1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TMED1 shRNA Plasmid (h): sc-97103-SH and TMED1 shRNA (h) Lentiviral Particles: sc-97103-V as alternate gene silencing products.

For independent verification of TMED1 (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-97103A, sc-97103B and sc-97103C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TMED1 siRNA (h) is recommended for the inhibition of TMED1 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  $\mu$ M in 66  $\mu$ l. 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

TMED1 (F-9): sc-377321 is recommended as a control antibody for monitoring of TMED1 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TMED1 gene expression knockdown using RT-PCR Primer: TMED1 (h)-PR: sc-97103-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.