SANTA CRUZ BIOTECHNOLOGY, INC.

TMED2 siRNA (h): sc-95717

BACKGROUND

TMED2 (transmembrane emp24 domain trafficking protein 2), also known as P24A or RNP24, is a 201 amino acid protein that is a member of the EMP24/GP25L family. Like most members of this family, TMED2 is a single-pass type I membrane protein containing one GOLD domain. 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 RUN domains, which interact with cytoskeletal filaments of membrane proteins. TMED2 is thought to inhibit GTPase-activating activity of ARFGAP1 and may have a role in the budding of coatomer-coated and other species of coated vesicles. As part of a complex composed of SURF-4 and TMP21, TMED2 binds to cargo molecules to collect them into budding vesicles.

REFERENCES

1. Blum, R., et al. 1996. Tmp21 and p24A, two type I proteins enriched in pancreatic microsomal membranes, are members of a protein family involved in vesicular trafficking. J. Biol. Chem. 271: 17183-17189.
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. Blum, R., et al. 1999. Intracellular localization and *in vivo* trafficking of p24A and p23. J. Cell Sci. 112: 537-548.
4. Sugasawa, T., et al. 2001. The iodocyanopindolol and SM-11044 binding protein belongs to the TM9SF multispanning membrane protein superfamily. Gene 273: 227-237.
5. Barr, F.A., et al. 2001. Golgi matrix proteins interact with p24 cargo receptors and aid their efficient retention in the Golgi apparatus. J. Cell Biol. 155: 885-891.
6. Anantharaman, V. and Aravind, L. 2002. The GOLD domain, a novel protein module involved in Golgi function and secretion. Genome Biol. 3: research0023.

CHROMOSOMAL LOCATION

Genetic locus: TMED2 (human) mapping to 12q24.31.

PRODUCT

TMED2 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 TMED2 shRNA Plasmid (h): sc-95717-SH and TMED2 shRNA (h) Lentiviral Particles: sc-95717-V as alternate gene silencing products.

For independent verification of TMED2 (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-95717A, sc-95717B and sc-95717C.

RESEARCH USE

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

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

TMED2 siRNA (h) is recommended for the inhibition of TMED2 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

TMED2 (E-12): sc-376458 is recommended as a control antibody for monitoring of TMED2 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 TMED2 gene expression knockdown using RT-PCR Primer: TMED2 (h)-PR: sc-95717-PR (20 µl, 630 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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