SANTA CRUZ BIOTECHNOLOGY, INC.

TMED4 siRNA (m): sc-106619

BACKGROUND

TMED4 (transmembrane emp24 domain-containing protein 4), also known as ERS25 (endoplasmic reticulum stress-response protein 25) and putative NFκB-activating protein 156, is a 225 amino acid protein that is a member of the EMP24/GP25L family. Like most members of this family, TMED4 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 the RUN domain, which interacts with cytoskeletal filaments, of membrane proteins. Localized to the endoplasmic reticulum, TMED4 is induced by ER-specific stress, heat shock and oxidative stress. Knockdown of TMED4 mRNA results in a significant reduction in apoptosis as well as a reduction in reactive oxidative species. There are three isoforms of TMED4 that are produced as a result of alternative splicing events.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Tmed4 (mouse) mapping to 11 A1.

PROTOCOLS

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

PRODUCT

TMED4 siRNA (m) 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 TMED4 shRNA Plasmid (m): sc-106619-SH and TMED4 shRNA (m) Lentiviral Particles: sc-106619-V as alternate gene silencing products.

For independent verification of TMED4 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-106619A, sc-106619B and sc-106619C.

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

TMED4 siRNA (m) is recommended for the inhibition of TMED4 expression in mouse 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 TMED4 gene expression knockdown using RT-PCR Primer: TMED4 (m)-PR: sc-106619-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.