

TXNDC1 siRNA (m): sc-154817

BACKGROUND

Thioredoxins comprise a family of small proteins that, by catalyzing the oxidation of disulfide bonds, participate in redox reactions throughout the cell. Proteins that contain thioredoxin domains do not necessarily convey the oxidative properties of thioredoxins, but generally function as disulfide isomerases that enzymatically rearrange disulfide bonds found in various proteins.

TXNDC13 (thioredoxin domain-containing protein 13), also known as TMX4 (thioredoxin-related transmembrane protein 4) or PDI14 (protein disulfide isomerase family A, member 14), is a 349 amino acid single-pass type I membrane protein that contains one thioredoxin domain. Strongly expressed in melanoma cells, TXNDC13 localizes to the endoplasmic reticulum. TXNDC13 is suggested to be involved in protein folding due to its interaction with Calnexin and Erp57.

REFERENCES

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- Matsuo, Y., et al. 2009. Physical and functional interaction of transmembrane thioredoxin-related protein with major histocompatibility complex class I heavy chain: redox-based protein quality control and its potential relevance to immune responses. *Mol. Biol. Cell* 20: 4552-4562.

CHROMOSOMAL LOCATION

Genetic locus: Tmx1 (mouse) mapping to 12 C2.

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.

PRODUCT

TXNDC1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TXNDC1 shRNA Plasmid (m): sc-154817-SH and TXNDC1 shRNA (m) Lentiviral Particles: sc-154817-V as alternate gene silencing products.

For independent verification of TXNDC1 (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-154817A, sc-154817B and sc-154817C.

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

APPLICATIONS

TXNDC1 siRNA (m) is recommended for the inhibition of TXNDC1 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 μ M in 66 μ 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TXNDC1 gene expression knockdown using RT-PCR Primer: TXNDC1 (m)-PR: sc-154817-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.