

ERp19 siRNA (h): sc-60597

BACKGROUND

Endoplasmic reticulum proteins (ERPs) are widely expressed proteins and localize to the ER. ERp19, ERp29, ERp46, ERp57 and ERp72 may act as proteases, protein disulfide isomerases, thiol-disulfide oxidases, phospholipases or a combination of these. ERp19, also designated thioredoxin domain-containing protein 12 (TXNDC12), and ERp46, also designated thioredoxin domain containing 5 (TXNDC5), belong to the thioredoxin superfamily and contain a thioredoxin fold with a consensus active-site sequence (CxxC). Both ERp19 and ERp46 are widely expressed ER luminal proteins that are most abundant in the liver and are enriched in purified liver ER vesicles. ERp19 shows significant protein thiol-disulfide oxidase activity *in vitro*, which is dependent on the presence of both active-site cysteines.

REFERENCES

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2. Alanen, H.I., Williamson, R.A., Howard, M.J., Lappi, A.K., Jääntti, H.P., Rautio, S.M., Kellokumpu, S. and Ruddock, L.W. 2003. Functional characterization of ERp18, a new endoplasmic reticulum-located thioredoxin superfamily member. *J. Biol. Chem.* 278: 28912-28920.
3. Liu, F., Rong, Y.P., Zeng, L.C., Zhang, X. and Han, Z.G. 2003. Isolation and characterization of a novel human thioredoxin-like gene hTLP19 encoding a secretory protein. *Gene* 315: 71-78.
4. Knoblach, B., Keller, B.O., Groenendyk, J., Aldred, S., Zheng, J., Lemire, B.D., Li, L. and Michalak, M. 2003. ERp19 and ERp46, new members of the thioredoxin family of endoplasmic reticulum proteins. *Mol. Cell. Proteomics* 2: 1104-1119.

CHROMOSOMAL LOCATION

Genetic locus: TXNDC12 (human) mapping to 1p32.3.

PRODUCT

ERp19 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ERp19 shRNA Plasmid (h): sc-60597-SH and ERp19 shRNA (h) Lentiviral Particles: sc-60597-V as alternate gene silencing products.

For independent verification of ERp19 (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-60597A, sc-60597B and sc-60597C.

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 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

ERp19 siRNA (h) is recommended for the inhibition of ERp19 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 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.

GENE EXPRESSION MONITORING

ERp19 (C-7): sc-376410 is recommended as a control antibody for monitoring of ERp19 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 κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 ERp19 gene expression knockdown using RT-PCR Primer: ERp19 (h)-PR: sc-60597-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.