SANTA CRUZ BIOTECHNOLOGY, INC.

ERp27 siRNA (h): sc-96064

BACKGROUND

Endoplasmic reticulum proteins (ERps) are widely expressed proteins that localize to the ER and may act as proteases, protein disulfide isomerases, thiol-disulfide oxidases or phospholipases. ERp27 (endoplasmic reticulum protein 27 kDa), also known as C12orf46, is a 273 amino acid protein that contains one thioredoxin domain and, characteristic of ERps, localizes to the lumen of the endoplasmic reticulum. ERp27 lacks the CXXC active site that is necessary for catalytic activity and, therefore, functions as a non-catalytic disulfide isomerase. Although ERp27 is catalytically inactive, it is thought to bind to and interact with ERp57 and Somatostatin. The gene encoding ERp27 localizes to human chromosome 12, which houses over 1,100 genes and comprises approximately 4.5% of the human genome.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610642. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Alanen, H.I., et al. 2003. Functional characterization of ERp18, a new endoplasmic reticulum-localated thioredoxin superfamily member. J. Biol. Chem. 278: 28912-28920.
3. Russell, S.J., et al. 2004. The primary substrate binding site in the b' domain of ERp57 is adapted for endoplasmic reticulum lectin association. J. Biol. Chem. 279: 18861-18869.
4. Lim, J., et al. 2006. A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. Cell 125: 801-814.
5. Alanen, H.I., et al. 2006. ERp27, a new non-catalytic endoplasmic reticulum-located human protein disulfide isomerase family member, interacts with ERp57. J. Biol. Chem. 281: 33727-33738.

CHROMOSOMAL LOCATION

Genetic locus: ERP27 (human) mapping to 12p12.3.

PRODUCT

ERp27 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 ERp27 shRNA Plasmid (h): sc-96064-SH and ERp27 shRNA (h) Lentiviral Particles: sc-96064-V as alternate gene silencing products.

For independent verification of ERp27 (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-96064A, sc-96064B and sc-96064C.

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 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

ERp27 siRNA (h) is recommended for the inhibition of ERp27 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ERp27 gene expression knockdown using RT-PCR Primer: ERp27 (h)-PR: sc-96064-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.