

# ELFN1 siRNA (m): sc-144631

## BACKGROUND

ELFN1 (extracellular leucine-rich repeat and fibronectin type III domain containing 1), also known as PPP1R28 (protein phosphatase 1 regulatory subunit 28), is a 806 amino acid single-pass membrane protein that interacts with PPP1CA. The ELFN1 protein inhibits phosphatase activity of protein phosphatase one (PP1) complexes. ELFN1 contains one fibronectin type-III domain, five LRR (leucine-rich) repeats and one LRRCT domain. The ELFN1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 7p22.3. Chromosome 7 is about 158 million bases long, encodes over 1000 genes and makes up about 5% of the human genome. Chromosome 7 has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome. The deletion of a portion of the q arm of chromosome 7 is associated with Williams-Beuren syndrome, a condition characterized by mild mental retardation, an unusual comfort and friendliness with strangers and an elfin appearance. Deletions of portions of the q arm of chromosome 7 are also seen in a number of myeloid disorders including cases of acute myelogenous leukemia and myelodysplasia.

## REFERENCES

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2. Hillier, L.W., et al. 2003. The DNA sequence of human chromosome 7. *Nature* 424: 157-164.
3. Dolan, J., et al. 2007. The extracellular leucine-rich repeat superfamily; a comparative survey and analysis of evolutionary relationships and expression patterns. *BMC Genomics* 8: 320.
4. Brezinová, J., et al. 2007. Structural aberrations of chromosome 7 revealed by a combination of molecular cytogenetic techniques in myeloid malignancies. *Cancer Genet. Cytogenet.* 173: 10-16.
5. Hendrickx, A., et al. 2009. Docking motif-guided mapping of the interactome of protein phosphatase-1. *Chem. Biol.* 16: 365-371.
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## CHROMOSOMAL LOCATION

Genetic locus: Elfn1 (mouse) mapping to 5 G2.

## PRODUCT

ELFN1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ELFN1 shRNA Plasmid (m): sc-144631-SH and ELFN1 shRNA (m) Lentiviral Particles: sc-144631-V as alternate gene silencing products.

For independent verification of ELFN1 (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-144631A, sc-144631B and sc-144631C.

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

## APPLICATIONS

ELFN1 siRNA (m) is recommended for the inhibition of ELFN1 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  $\mu$ M in 66  $\mu$ 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 ELFN1 gene expression knockdown using RT-PCR Primer: ELFN1 (m)-PR: sc-144631-PR (20  $\mu$ l). 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.