

# SLC39A13 siRNA (m): sc-153557

## BACKGROUND

Zinc is an essential cofactor that is involved in cell growth and development, as well as in protein, nucleic acid and lipid metabolism. The transport of zinc across the cell membrane is crucial for correct enzyme and overall cell function. SLC39A13 (solute carrier family 39 (zinc transporter), member 13), also known as ZIP13 (Zrt- and Irt-like protein 13), is a 371 amino acid multi-pass membrane protein that belongs to the ZIP transporter family. Expressed as multiple alternatively spliced isoforms, SLC39A13 acts as a zinc-influx transporter that, when defective, is associated with the development of Ehlers-Danlos syndrome-like spondylocheiropodysplasia (SCD-EDS). SCD-EDS is a spondylocheiro dysplastic form of Ehlers-Danlos syndrome that is characterized by postnatal growth retardation, moderate short stature, protuberant eyes with bluish sclera, hands with finely wrinkled palms, atrophy of the thenar muscles and tapering fingers.

## REFERENCES

1. Yeowell, H.N., et al. 1993. The Ehlers-Danlos syndromes. *Semin Dermatol.* 12: 229-240.
2. Taylor, K.M., et al. 2003. The LZT proteins; the LIV-1 subfamily of zinc transporters. *Biochim. Biophys. Acta* 1611: 16-30.
3. Giunta, C., et al. 2008. Spondylocheiro dysplastic form of the Ehlers-Danlos syndrome—an autosomal-recessive entity caused by mutations in the zinc transporter gene SLC39A13. *Am. J. Hum. Genet.* 82: 1290-1305.
4. 2008. A Zn-surprise in Ehlers-Danlos syndrome. *Matrix Biol.* 27: 503-504.
5. Fukada, T., et al. 2008. The zinc transporter SLC39A13/ZIP13 is required for connective tissue development; its involvement in BMP/TGF $\beta$  signaling pathways. *PLoS ONE* 3: e3642.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 608735. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: SLC39A13 (mouse) mapping to 2 E1.

## PRODUCT

SLC39A13 siRNA (m) is a pool of 2 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 SLC39A13 shRNA Plasmid (m): sc-153557-SH and SLC39A13 shRNA (m) Lentiviral Particles: sc-153557-V as alternate gene silencing products.

For independent verification of SLC39A13 (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-153557A and sc-153557B.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

SLC39A13 siRNA (m) is recommended for the inhibition of SLC39A13 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 SLC39A13 gene expression knockdown using RT-PCR Primer: SLC39A13 (m)-PR: sc-153557-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.