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# ZIP14 siRNA (m): sc-155618

## 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. ZIP14 (Zrt- and Irt-like protein 14), also known as SLC39A14 (solute carrier family 39 (zinc transporter), member 14), Cig19 or LZT-Hs4, is a 492 amino acid multi-pass membrane protein that is co-localized with F-Actin and belongs to the ZIP transporter family. Existing as a homotrimer that is expressed in a variety of tissues, including heart, liver and pancreas, ZIP14 functions as a zinc-influx transporter that may also play a role in iron transport across the cell membrane. Multiple isoforms of ZIP14 exist due to alternative splicing events.

## REFERENCES

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2. Taylor, K.M. and Nicholson, R.I. 2003. The LZT proteins; the LIV-1 subfamily of zinc transporters. *Biochim. Biophys. Acta* 1611: 16-30.
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5. Liuzzi, J.P., Aydemir, F., Nam, H., Knutson, M.D. and Cousins, R.J. 2006. ZIP14 (SLC39A14) mediates non-transferrin-bound iron uptake into cells. *Proc. Natl. Acad. Sci. USA* 103: 13612-13617.
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## CHROMOSOMAL LOCATION

Genetic locus: Slc39a14 (mouse) mapping to 14 D2.

## PRODUCT

ZIP14 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 ZIP14 shRNA Plasmid (m): sc-155618-SH and ZIP14 shRNA (m) Lentiviral Particles: sc-155618-V as alternate gene silencing products.

For independent verification of ZIP14 (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-155618A, sc-155618B and sc-155618C.

## 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

ZIP14 siRNA (m) is recommended for the inhibition of ZIP14 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 ZIP14 gene expression knockdown using RT-PCR Primer: ZIP14 (m)-PR: sc-155618-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.