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# SLC41A3 siRNA (m): sc-153561

## BACKGROUND

SLC41A3 (solute carrier family 41 member 3) is a 507 amino acid multi-pass membrane protein that belongs to the SLC41A transporter family that includes SLC41A1 and SLC41A2. Localizing to the cell membrane, SLC41A3 contains ten transmembrane domains and is believed to function as a plasma-membrane cation transporter. Its other two family members, SLC41A1 and SLC41A2, have been characterized to function as magnesium transporters and are essential for maintaining magnesium homeostasis within the cell. It is likely that SLC41A3 also transports magnesium, which as a cofactor for ATP, plays a vital role in metabolic and biochemical processes. There are seven isoforms of SLC41A3 that are produced as a result of alternative splicing events.

## REFERENCES

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6. Schmitz, C., Deason, F. and Perraud, A.L. 2007. Molecular components of vertebrate Mg<sup>2+</sup>-homeostasis regulation. *Magnes. Res.* 20: 6-18.
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## CHROMOSOMAL LOCATION

Genetic locus: Slc41a3 (mouse) mapping to 6 D1.

## 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.

## PRODUCT

SLC41A3 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 SLC41A3 shRNA Plasmid (m): sc-153561-SH and SLC41A3 shRNA (m) Lentiviral Particles: sc-153561-V as alternate gene silencing products.

For independent verification of SLC41A3 (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-153561A, sc-153561B and sc-153561C.

## 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

SLC41A3 siRNA (m) is recommended for the inhibition of SLC41A3 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 SLC41A3 gene expression knockdown using RT-PCR Primer: SLC41A3 (m)-PR: sc-153561-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.