



ZnT-2 siRNA (h): sc-106718

BACKGROUND

Zinc, an essential element required for cell proliferation and differentiation, plays a role in a diverse array of cellular functions, including acting as a cofactor for numerous enzymes and transcription factors and as a neuroregulator. The zinc transporter (ZnT) family regulates the supply of zinc within cells, and its members are characterized by containing six membrane-spanning domains, a large histidine-rich intracellular loop and a C-terminal tail. ZnT-2 mediates the uptake of zinc into vesicles in small intestine, kidney, placenta and, in some cases, liver.

REFERENCES

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2. McMahon, R.J. and Cousins, R.J. 1998. Mammalian zinc transporters. *J. Nutr.* 128: 667-670.
3. Beyersmann, D. and Haase, H. 2001. Functions of zinc in signaling, proliferation and differentiation of mammalian cells. *Biometals* 14: 331-341.
4. Liuzzi, J.P., Blanchard, R.K. and Cousins, R.J. 2001. Differential regulation of zinc transporter 1, 2, and 4 mRNA expression by dietary zinc in rats. *J. Nutr.* 131: 46-52.
5. Sekler, I., Moran, A., Hershfinkel, M., Dori, A., Margulis, A., Birenzweig, N., Nitzan, Y. and Silverman, W.F. 2002. Distribution of the zinc transporter ZnT-1 in comparison with chelatable zinc in the mouse brain. *J. Comp. Neurol.* 447: 201-209.

CHROMOSOMAL LOCATION

Genetic locus: SLC30A2 (human) mapping to 1p36.11.

PRODUCT

ZnT-2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZnT-2 shRNA Plasmid (h): sc-106718-SH and ZnT-2 shRNA (h) Lentiviral Particles: sc-106718-V as alternate gene silencing products.

For independent verification of ZnT-2 (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-106718A, sc-106718B and sc-106718C.

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

APPLICATIONS

ZnT-2 siRNA (h) is recommended for the inhibition of ZnT-2 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 μ M in 66 μ 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 ZnT-2 gene expression knockdown using RT-PCR Primer: ZnT-2 (h)-PR: sc-106718-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.