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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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## ZnT-3 siRNA (h): sc-45964

### 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 co-factor for numerous enzymes and transcription factors and as a neuro-regulator. 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-3 mediates the uptake of zinc into vesicles in brain and testis.

### REFERENCES

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3. Wenzel, H.J., Cole, T.B., Born, D.E., Schwartzkroin, P.A. and Palmiter, R.D. 1997. Ultrastructural localization of zinc transporter-3 (ZnT-3) to synaptic vesicle membranes within mossy fiber boutons in the hippocampus of mouse and monkey. *Proc. Natl. Acad. Sci. USA* 94: 12676-12681.
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6. Beyersmann, D. and Haase, H. 2001. Functions of zinc in signaling, proliferation and differentiation of mammalian cells. *Biomaterials* 14: 331-341.
7. Sekler, I., Moran, A., Hershinkel, 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.
8. Wang, Z., Danscher, G., Kim, Y.K., Dahlstrom, A. and Mook Jo, S. 2002. Inhibitory zinc-enriched terminals in the mouse cerebellum: double-immunohistochemistry for zinc transporter 3 and glutamate decarboxylase. *Neurosci. Lett.* 321: 37-40.

### CHROMOSOMAL LOCATION

Genetic locus: SLC30A3 (human) mapping to 2p23.3.

### PRODUCT

ZnT-3 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZnT-3 shRNA Plasmid (h): sc-45964-SH and ZnT-3 shRNA (h) Lentiviral Particles: sc-45964-V as alternate gene silencing products.

For independent verification of ZnT-3 (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-45964A, sc-45964B and sc-45964C.

### 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

ZnT-3 shRNA (h) Lentiviral Particles is recommended for the inhibition of ZnT-3 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  $\mu$ 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 ZnT-3 gene expression knockdown using RT-PCR Primer: ZnT-3 (h)-PR: sc-45964-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.