

Teneurin-3 siRNA (m): sc-154191

BACKGROUND

Teneurin-3, also known as Ten-3, TNM3 or ODZ3, is a 2,699 amino acid single-pass type II membrane protein that contains 25 YD repeats, 8 EGF-like domains, 5 NHL repeats and one teneurin N-terminal domain. Localized to the membrane and expressed in brain, testis and ovary, Teneurin-3 exists as a disulfide-linked homodimer that is thought to function as a cellular signal transducer. Additionally, Teneurin-3 may participate in eye-specific patterning in the visual pathway and is required for aligned binocular vision. The gene encoding Teneurin-3 maps to chromosome 4. Representing approximately 6% of the human genome, chromosome 4 contains nearly 900 genes, one of which is the Huntingtin gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease. FGFR-3 is also encoded on chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

1. Mieda, M., Kikuchi, Y., Hirate, Y., Aoki, M. and Okamoto, H. 1999. Compartmentalized expression of zebrafish ten-m3 and ten-m4, homologues of the *Drosophila* ten(m)/odd Oz gene, in the central nervous system. *Mech. Dev.* 87: 223-227.
2. Nagase, T., Kikuno, R., Ishikawa, K., Hirosawa, M. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XVII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 143-150.
3. Ben-Zur, T., Feige, E., Motro, B. and Wides, R. 2000. The mammalian Odz gene family: homologs of a *Drosophila* pair-rule gene with expression implying distinct yet overlapping developmental roles. *Dev. Biol.* 217: 107-120.
4. Feng, K., Zhou, X.H., Oohashi, T., Mörgelin, M., Lustig, A., Hirakawa, S., Ninomiya, Y., Engel, J., Rauch, U. and Fässler, R. 2002. All four members of the Ten-m/Odz family of transmembrane proteins form dimers. *J. Biol. Chem.* 277: 26128-26135.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610083. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: Tenm3 (mouse) mapping to 8 B1.2.

PRODUCT

Teneurin-3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Teneurin-3 shRNA Plasmid (m): sc-154191-SH and Teneurin-3 shRNA (m) Lentiviral Particles: sc-154191-V as alternate gene silencing products.

For independent verification of Teneurin-3 (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-154191A, sc-154191B and sc-154191C.

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

Teneurin-3 siRNA (m) is recommended for the inhibition of Teneurin-3 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 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 Teneurin-3 gene expression knockdown using RT-PCR Primer: Teneurin-3 (m)-PR: sc-154191-PR (20 μ 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 for detailed protocols and support products.