SANTA CRUZ BIOTECHNOLOGY, INC.

Teneurin-2 siRNA (h): sc-92017

BACKGROUND

Teneurins represent a highly conserved family of four type II transmembrane proteins in vertebrates. They exist as homodimers and participate in homophilic interactions. Teneurin-2, also known as ODZ2 (odz, odd Oz/ten-m homolog 2), TNM2 (tenascin-M2) or TEN-M2, is a 2,774 single-pass type II membrane protein that is highly expressed in heart, brain, liver and kidney, and weakly expressed in lung and testis. Belonging to the tenascin family and the Teneurin subfamily, Teneurin-2 is thought to function as a cellular signal transducer. Existing as a homodimer, Teneurin-2 contains eight EGF-like domains, five NHL repeats, a teneurin N-terminal domain and twenty-three YD repeats. The cytoplasmic proline-rich regions of Teneurin-2 may serve as docking domains for intracellular SH3-containing proteins. Teneurin-2 is encoded by the ODZ2 gene, which is located on human chromosome 5q34.

REFERENCES

1. Hirosawa, M., Nagase, T., Ishikawa, K., Kikuno, R., Nomura, N. and Ohara, O. 1999. Characterization of cDNA clones selected by the GeneMark analysis from size-fractionated cDNA libraries from human brain. DNA Res. 6: 329-336.
2. Ben-Zur, T. and Wides, R. 1999. Mapping homologs of Drosophila odd Oz (odz): Doc4/Odz4 to mouse chromosome 7, Odz1 to mouse chromosome 11; and ODZ3 to human chromosome Xq25. Genomics 58: 102-103.
3. Oohashi, T., Zhou, X.H., Feng, K., Richter, B., Mörgelin, M., Perez, M.T., Su, W.D., Chiquet-Ehrismann, R., Rauch, U. and Fässler, R. 1999. Mouse ten-m/Odz is a new family of dimeric type II transmembrane proteins expressed in many tissues. J. Cell Biol. 145: 563-577.
4. 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.
5. Tucker, R.P., Chiquet-Ehrismann, R., Chevron, M.P., Martin, D., Hall, R.J. and Rubin, B.P. 2001. Teneurin-2 is expressed in tissues that regulate limb and somite pattern formation and is induced *in vitro* and *in situ* by FGF8. Dev. Dyn. 220: 27-39.
6. Rubin, B.P., Tucker, R.P., Brown-Luedi, M., Martin, D. and Chiquet-Ehrismann, R. 2002. Teneurin 2 is expressed by the neurons of the thalamofugal visual system *in situ* and promotes homophilic cell-cell adhesion *in vitro*. Development 129: 4697-4705.
7. Zhou, X.H., Brandau, O., Feng, K., Oohashi, T., Ninomiya, Y., Rauch, U. and Fässler, R. 2003. The murine Ten-m/Odz genes show distinct but overlapping expression patterns during development and in adult brain. Gene Expr. Patterns 3: 397-405.
8. Vinatzer, U., Gollinger, M., Müllauer, L., Raderer, M., Chott, A. and Streubel, B. 2008. Mucosa-associated lymphoid tissue lymphoma: novel translocations including rearrangements of ODZ2, JMJD2C, and CNN3. Clin. Cancer Res. 14: 6426-6431.
9. Young, T.R. and Leamey, C.A. 2009. Teneurins: important regulators of neural circuitry. Int. J. Biochem. Cell Biol. 41: 990-993.

CHROMOSOMAL LOCATION

Genetic locus: TENM2 (human) mapping to 5q34.

PRODUCT

Teneurin-2 siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Teneurin-2 shRNA Plasmid (h): sc-92017-SH and Teneurin-2 shRNA (h) Lentiviral Particles: sc-92017-V as alternate gene silencing products.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Teneurin-2 siRNA (h) is recommended for the inhibition of Teneurin-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 µM in 66 µl. 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-2 gene expression knockdown using RT-PCR Primer: Teneurin-2 (h)-PR: sc-92017-PR (20 µl). 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.