SANTA CRUZ BIOTECHNOLOGY, INC.

Tenomodulin siRNA (h): sc-61665

BACKGROUND

Tenomodulin (TEM), also designated chondromodulin-I-like protein (CHM-1L), myodulin or tendin, acts as an angiogenesis inhibitor. It is a single-pass type II membrane protein that belongs to the chondromodulin family of proteins. The deduced 317 amino acid protein contains an N-terminal transmembrane domain and a putative antiangiogenic domain comprised of eight cysteines. Human Tenomodulin shares 96% amino acid identity with mouse Tenomodulin, and it shares 65% identity in a 65-amino acid C-terminal stretch with chondromodulin I. Tenomodulin is expressed in skeletal muscle, eye, whole rib and dense connective tissues, such as epimysium and tendon.

REFERENCES

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2. Shukunami, C., et al. 2001. Molecular cloning of Tenomodulin, a novel chondromodulin-I related gene. Biochem. Biophys. Res. Commun. 280: 1323-1327.
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4. Oshima, Y., et al. 2004. Antiangiogenic action of the C-terminal domain of Tenomodulin that shares homology with chondromodulin I. J. Cell Sci. 117: 2731-2744.
5. Docheva, D., et al. 2005. Tenomodulin is necessary for tenocyte proliferation and tendon maturation. Mol. Cell. Biol. 25: 699-705.
6. Hiraki, Y. and Shukunami, C. 2005. Angiogenesis inhibitors localized in hypovascular mesenchymal tissues: chondromodulin-I and Tenomodulin. Connect. Tissue Res. 46: 3-11.
7. Pisani, D.F., et al. 2005. Mouse myodulin, a new potential angiogenic factor, functionally expressed in yeast. Biochem. Biophys. Res. Commun. 331: 552-556.
8. Shukunami, C., et al. 2005. Chondromodulin-I and Tenomodulin: a new class of tissue-specific angiogenesis inhibitors found in hypovascular connective tissues. Biochem. Biophys. Res. Commun. 333: 299-307.

CHROMOSOMAL LOCATION

Genetic locus: TNMD (human) mapping to Xq22.1.

PRODUCT

Tenomodulin 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tenomodulin shRNA Plasmid (h): sc-61665-SH and Tenomodulin shRNA (h) Lentiviral Particles: sc-61665-V as alternate gene silencing products.

For independent verification of Tenomodulin (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-61665A, sc-61665B and sc-61665C.

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

Tenomodulin siRNA (h) is recommended for the inhibition of Tenomodulin 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.

GENE EXPRESSION MONITORING

Tenomodulin (A-2): sc-518131 is recommended as a control antibody for monitoring of Tenomodulin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Tenomodulin gene expression knockdown using RT-PCR Primer: Tenomodulin (h)-PR: sc-61665-PR (20 µl, 571 bp). 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.