

# Tenomodulin (N-14): sc-49325

## 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 8 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

1. Yamana, K., et al. 2001. Molecular cloning and characterization of ChM-1L, a novel membrane molecule similar to chondromodulin-I. *Biochem. Biophys. Res. Commun.* 280: 1101-1106.
2. Shukunami, C., et al. 2001. Molecular cloning of Tenomodulin, a novel chondromodulin-I related gene. *Biochem. Biophys. Res. Commun.* 280: 1323-1327.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300459. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: TNMD (human) mapping to Xq22.1; Tnmd (mouse) mapping to X E3.

## SOURCE

Tenomodulin (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of Tenomodulin of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49325 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## 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) or our catalog for detailed protocols and support products.

## APPLICATIONS

Tenomodulin (N-14) is recommended for detection of Tenomodulin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Tenomodulin (N-14) is also recommended for detection of Tenomodulin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Tenomodulin siRNA (h): sc-61665, Tenomodulin siRNA (m): sc-61666, Tenomodulin shRNA Plasmid (h): sc-61665-SH, Tenomodulin shRNA Plasmid (m): sc-61666-SH, Tenomodulin shRNA (h) Lentiviral Particles: sc-61665-V and Tenomodulin shRNA (m) Lentiviral Particles: sc-61666-V.

Molecular Weight of Tenomodulin: 37 kDa.

## SELECT PRODUCT CITATIONS

1. Watahiki, J., et al. 2008. Identification of differentially expressed genes in mandibular condylar and tibial growth cartilages using laser microdissection and fluorescent differential display: chondromodulin-I (ChM-1) and tenomodulin (TeM) are differentially expressed in mandibular condylar and other growth cartilages. *Bone* 42: 1053-1060.
2. Rui, Y.F., et al. 2010. Isolation and characterization of multipotent rat tendon-derived stem cells. *Tissue Eng. Part A* 16: 1549-1558.
3. Fang, B., et al. 2010. Isolation and characterization of multipotent progenitor cells from the human fetal aorta wall. *Exp. Biol. Med.* 235: 130-138.
4. Buhrmann, C., et al. 2011. Curcumin modulates nuclear factor κB (NFκB)-mediated inflammation in human tenocytes *in vitro*: role of the phosphatidylinositol 3-kinase/Akt pathway. *J. Biol. Chem.* 286: 28556-28566.
5. Backman, L.J., et al. 2011. Substance P is a mechanoresponsive, autocrine regulator of human tenocyte proliferation. *PLoS ONE* 6: e27209.
6. Busch, F., et al. 2012. Resveratrol modulates interleukin-1β-induced phosphatidylinositol 3-kinase and nuclear factor κB signaling pathways in human tenocytes. *J. Biol. Chem.* 287: 38050-38063.
7. Fong, G., et al. 2013. Human tenocytes are stimulated to proliferate by acetylcholine through an EGFR signalling pathway. *Cell Tissue Res.* 351: 465-475.
8. Chai, W., et al. 2013. Effect of growth and differentiation factor 6 on the tenogenic differentiation of bone marrow-derived mesenchymal stem cells. *Chin. Med. J.* 126: 1509-1516.
9. Ni, M., et al. 2013. Engineered scaffold-free tendon tissue produced by tendon-derived stem cells. *Biomaterials* 34: 2024-2037.