

# tropomodulin 3 (M-16): sc-19211

## BACKGROUND

Originally isolated from human erythrocytes, the tropomodulin (Tmod) family of proteins cap the pointed end of actin filaments. A component of the membrane skeleton, Tmod binds to the amino terminus of tropomyosin, which coats the surface of actin, and thus blocks the elongation and depolymerization of actin filaments. Four Tmod isoforms, Tmod1 - Tmod4, have been characterized in humans. Tmod expression is isoform-specific; Tmod3 is expressed ubiquitously, whereas Tmod2 and Tmod4 are expressed in neuronal tissue and muscle, respectively. Ubiquitous expression of seven Tmod3 transcripts, ranging in size between 1 and 9.5 kb, have been identified by Northern Blot analysis on human tissues. Tmod3, the mouse homolog to human Tmod3, is present as early as day 7 in embryonic development and is expressed throughout development. The human Tmod3 gene maps to chromosome 15q21.1-q21.2, within the same region as the gene for amyotrophic lateral sclerosis 5 (ALS5), and encodes a 352 amino acid protein.

## REFERENCES

1. Sung, L.A., Fan, Y., and Lin, C.C. 1996. Gene assignment, expression, and homology of human tropomodulin. *Genomics* 34: 92-96.
2. Kimura, S., Ichikawa, A., Ishizuka, J., Ohkouchi, S., Kake, T., and Maruyama, K. 1999. Tropomodulin isolated from rabbit skeletal muscle inhibits filament formation of actin in the presence of tropomyosin and troponin. *Eur. J. Biochem.* 263: 396-401.
3. Cox, P.R. and Zoghbi, H.Y. 2000. Sequencing, expression analysis, and mapping of three unique human tropomodulin genes and their mouse orthologs. *Genomics* 63: 97-107.
4. Lee, A., Fischer, R.S., and Fowler, V.M. 2000. Stabilization and remodeling of the membrane skeleton during lens fiber cell differentiation and maturation. *Dev. Dyn.* 217: 257-270.
5. Cox, P.R., Siddique, T., and Zoghbi, H.Y. 2001. Genomic organization of tropomodulins 2 and 4 and unusual intergenic and intraexonic splicing of YL-1 and Tropomodulin 4. *BMC Genomics* 2: 7.

## SOURCE

tropomodulin 3 (M-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of tropomodulin 3 of mouse 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-19211 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.

## APPLICATIONS

tropomodulin 3 (M-16) is recommended for detection of tropomodulin 3 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for tropomodulin 3 siRNA (m): sc-36733.

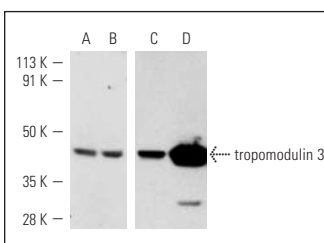
Molecular Weight of tropomodulin 3: 40 kDa.

Positive Controls: rat skeletal muscle extract, C2C12 whole cell lysate or Sol8 cell lysate: sc-2249.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Western blot analysis of tropomodulin 3 expression in Sol8 (A), C2C12 (B,C) whole cell lysates and rat skeletal muscle extract (D). Antibodies tested include tropomodulin 3 (M-16): sc-19211 (A,B) and tropomodulin 3 (C-13): sc-19206 (C,D).

## 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.