SANTA CRUZ BIOTECHNOLOGY, INC.

tropomodulin 4 (N-16): sc-19207

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. TMOD4, which has a similar organization to TMOD2, is intergenically spliced by the putative transformation suppressor gene product YL-1. The human TMOD4 gene maps to the telomeric end of chromosome 1q12 and encodes a 351 amino acid protein. The expression and chromosomal location of the TMOD4 gene make it a candidate for limb girdle musclular dystrophy 1B.

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. 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.
4. 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: TMOD4 (human) mapping to 1q12; Tmod4 (mouse) mapping to 3 F2.1.

SOURCE

tropomodulin 4 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of tropomodulin 4 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-19207 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

tropomodulin 4 (N-16) is recommended for detection of tropomodulin 4 of mouse, rat and 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 4 siRNA (h): sc-43468 and tropomodulin 4 siRNA (m): sc-43469.

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.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.