

tropomodulin 3 (C-13): sc-19206

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, tropomodulin binds to the amino-terminus of Tropomyosin, which coats the surface of Actin, and thus blocks the elongation and depolymerization of Actin filaments. Four tropomodulin isoforms, tropomodulin 1–4, have been characterized in humans. Tropomodulin expression is isoform-specific; tropomodulin 3 is expressed ubiquitously, whereas tropomodulin 2 and tropomodulin 4 are expressed in neuronal tissue and muscle, respectively. Ubiquitous expression of seven tropomodulin 3 transcripts, ranging in size between 1 and 9.5 kb, have been identified by Northern Blot analysis on human tissues. The human TMOD3 gene maps to chromosome 15q21.2, within the same region as the gene for amyotrophic lateral sclerosis 5 (ALS5), and encodes a 352 amino acid protein. Tmod3, the mouse homolog to human TMOD3, is present as early as day 7 in embryonic development and is expressed throughout development.

REFERENCES

1. Sung, L.A., et al. 1996. Gene assignment, expression, and homology of human tropomodulin. *Genomics* 34: 92-96.
2. Watakabe, A., et al. 1996. N-tropomodulin: a novel isoform of tropomodulin identified as the major binding protein to brain tropomyosin. *J. Cell Sci.* 109: 2299-2310.
3. Kimura, S., et al. 1999. Tropomodulin isolated from rabbit skeletal muscle inhibits filament formation of actin in the presence of tropomyosin and tropoinin. *Eur. J. Biochem.* 263: 396-401.

CHROMOSOMAL LOCATION

Genetic locus: TMOD3 (human) mapping to 15q21.2; Tmod3 (mouse) mapping to 9 D.

SOURCE

tropomodulin 3 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of tropomodulin 3 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-19206 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.

APPLICATIONS

tropomodulin 3 (C-13) is recommended for detection of tropomodulin 3 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 3 siRNA (h): sc-36732, tropomodulin 3 siRNA (m): sc-36733, tropomodulin 3 shRNA Plasmid (h): sc-36732-SH, tropomodulin 3 shRNA Plasmid (m): sc-36733-SH, tropomodulin 3 shRNA (h) Lentiviral Particles: sc-36732-V and tropomodulin 3 shRNA (m) Lentiviral Particles: sc-36733-V.

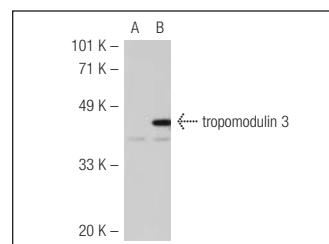
Molecular Weight of tropomodulin 3: 40 kDa.

Positive Controls: tropomodulin 3 (h): 293T Lysate: sc-113425, Sol8 cell lysate: sc-2249 or C2C12 whole cell lysate.

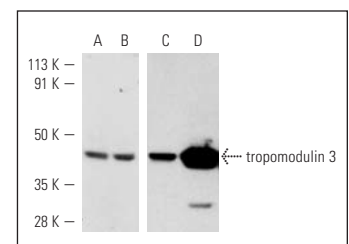
RECOMMENDED SECONDARY REAGENTS

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



tropomodulin 3 (C-13): sc-19206. Western blot analysis of tropomodulin 3 expression in non-transfected: sc-117752 (A) and human tropomodulin 3 transfected: sc-113425 (B) 293T whole cell lysates.



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).

SELECT PRODUCT CITATIONS

1. Porro, F., et al. 2004. The erythrocyte skeletons of β -adducin deficient mice have altered levels of Tropomyosin, tropomodulin and EcapZ. *FEBS Lett.* 576: 36-40.
2. Hill, J.J., et al. 2009. Glycoproteomic analysis of two mouse mammary cell lines during transforming growth factor (TGF)- β induced epithelial to mesenchymal transition. *Proteome Sci.* 7: 2.