

# Troponin T-SS (K-13): sc-30499

## BACKGROUND

Actin is a highly conserved protein that is expressed in all eukaryotic cells and interacts with Myosin to generate the force for diverse cellular movements, including cytokinesis, phagocytosis and muscle contraction. Troponin facilitates the interaction between actin and Myosin by binding to calcium. Troponin is made up of at least two subunits, which are divergent in cardiac muscle, fast skeletal muscle and slow skeletal muscle. Structures of skeletal muscle Troponin are composed of Troponin C (the sensor), Troponin I (the regulator) and three Troponin T (the link to the muscle thin filament) proteins, one of which functions as a Tropomyosin-binding protein and is known as Troponin T-SS (Troponin T-slow skeletal). Defects in the gene encoding Troponin T-SS are the cause of nemaline myopathy type 5 (NEM5), a form of nemaline myopathy characterized by mild contractures of the shoulders and hips, tremors and respiratory problems that often lead to death. Troponin T-SS is expressed as three isoforms due to alternative splicing events.

## REFERENCES

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3. Barton, P.J., Cullen, M.E., Townsend, P.J., Brand, N.J., Mullen, A.J., Norman, D.A., Bhavsar, P.K. and Yacoub, M.H. 1999. Close physical linkage of human troponin genes: organization, sequence, and expression of the locus encoding cardiac troponin I and slow skeletal troponin T. *Genomics* 57: 102-109.
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5. Johnston, J.J., Kelley, R.I., Crawford, T.O., Morton, D.H., Agarwala, R., Koch, T., Schäffer, A.A., Francomano, C.A. and Biesecker, L.G. 2000. A novel nemaline myopathy in the Amish caused by a mutation in troponin T1. *Am. J. Hum. Genet.* 67: 814-821.
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## CHROMOSOMAL LOCATION

Genetic locus: TNNT1 (human) mapping to 19q13.42; Tnnt1 (mouse) mapping to 7 A1.

## SOURCE

Troponin T-SS (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Troponin T-SS 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-30499 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Troponin T-SS (K-13) is recommended for detection of Troponin T-SS 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).

Troponin T-SS (K-13) is also recommended for detection of Troponin T-SS in additional species, including bovine and porcine.

Suitable for use as control antibody for Troponin T-SS siRNA (h): sc-43251, Troponin T-SS siRNA (m): sc-43252, Troponin T-SS shRNA Plasmid (h): sc-43251-SH, Troponin T-SS shRNA Plasmid (m): sc-43252-SH, Troponin T-SS shRNA (h) Lentiviral Particles: sc-43251-V and Troponin T-SS shRNA (m) Lentiviral Particles: sc-43252-V.

Positive Controls: SJRH30 cell lysate: sc-2287.

## 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) 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.

## 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.



Try **Troponin T-SS (A-9): sc-365014** or **Troponin T-SS (A-8): sc-271673**, our highly recommended monoclonal alternatives to Troponin T-SS (K-13).