

# Troponin T-SS (H-55): sc-28269

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Troponin T-SS (H-55) is a rabbit polyclonal antibody raised against amino acids 181-235 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.

## STORAGE

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

## APPLICATIONS

Troponin T-SS (H-55) 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), 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), immunohistochemistry (including paraffin-embedded sections) (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 (H-55) is also recommended for detection of Troponin T-SS in additional species, including equine, canine, bovine and porcine.

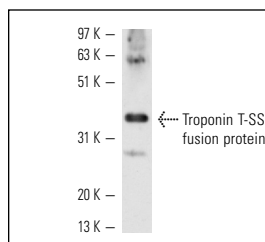
Suitable for use as control antibody for Troponin T-SS siRNA (h): sc-43251, Troponin T-SS siRNA (m): sc-43252, Troponin T-SS shRNA Plasmid (h): sc-43251-SH, Troponin T-SS shRNA Plasmid (m): sc-43252-SH, Troponin T-SS shRNA (h) Lentiviral Particles: sc-43251-V and Troponin T-SS shRNA (m) Lentiviral Particles: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

Positive Controls: SJRH30 cell lysate: sc-2287.

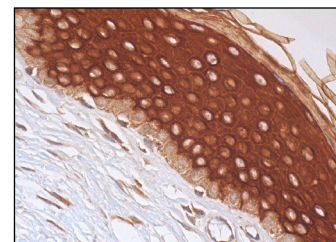
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



Troponin T-SS (H-55): sc-28269. Western blot analysis of human recombinant Troponin T-SS fusion protein.



Troponin T-SS (H-55): sc-28269. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva/anal skin tissue showing cytoplasmic staining of epidermal cells.

## SELECT PRODUCT CITATIONS

- Chandra, M., et al. 2009. Nebulin alters cross-bridge cycling kinetics and increases thin filament activation: a novel mechanism for increasing tension and reducing tension cost. *J. Biol. Chem.* 284: 30889-30896.
- Ottenheijm, C.A., et al. 2010. Altered myofilament function depresses force generation in patients with nebulin-based nemaline myopathy (NEM2). *J. Struct. Biol.* 170: 334-343.

## 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.

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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 (H-55).