

Troponin T-FS (C-18): sc-8123

BACKGROUND

Actin is a highly conserved protein that is expressed in all eukaryotic cells. Actin filaments can form both stable and labile structures and are crucial components of microvilli and the contractile apparatus of muscle cells. Myosin is a hexamer of two heavy chains (MHC) and four light chains (MLC) that interacts with actin 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 Troponin T (the link to the muscle thin filament). Troponin C is dumbbell-shaped and has a hydrophobic pocket that increases the contractile force of muscle fibers. Troponin C has two isoforms: fast and slow. Fast troponin C has two calcium binding sites while slow/cardiac troponin C has a single calcium binding site.

CHROMOSOMAL LOCATION

Genetic locus: TNNT3 (human) mapping to 11p15.5; Tnnt3 (mouse) mapping to 7 F5.

SOURCE

Troponin T-FS (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of fast skeletal muscle Troponin T 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-8123 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Troponin T-FS (C-18) is recommended for detection of fast skeletal muscle Troponin T 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).

Troponin T-FS (C-18) is also recommended for detection of fast skeletal muscle Troponin T in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Troponin T-FS siRNA (h): sc-36742, Troponin T-FS siRNA (m): sc-36743, Troponin T-FS shRNA Plasmid (h): sc-36742-SH, Troponin T-FS shRNA Plasmid (m): sc-36743-SH, Troponin T-FS shRNA (h) Lentiviral Particles: sc-36742-V and Troponin T-FS shRNA (m) Lentiviral Particles: sc-36743-V.

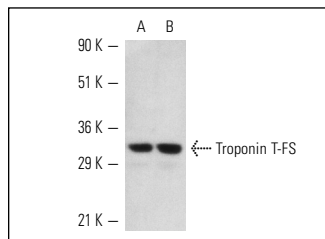
Molecular Weight of Troponin T-FS: 31 kDa.

Positive Controls: Sol8 cell lysate: sc-2249 or C2C12 whole cell lysate: sc-364188.

STORAGE

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

DATA



Troponin T-FS (C-18): sc-8123. Western blot analysis of Troponin T-FS expression in C2C12 (A) and Sol8 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Puri, P.L., et al. 2000. Induction of terminal differentiation by constitutive activation of p38 MAP kinase in human rhabdomyosarcoma cells. *Genes Dev.* 14: 574-584.
- Muroya, S., et al. 2009. A non-destructive method to monitor changes in a Troponin T peptide in beef drip with a monoclonal antibody. *Meat Sci.* 83: 155-160.
- 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 or our catalog for detailed protocols and support products.



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Try **Troponin T-FS (H-8): sc-166663** or **Troponin T-FS (B-4): sc-365575**, our highly recommended monoclonal alternatives to Troponin T-FS (C-18).