

# Troponin I-SS (C-19): sc-8119

## 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: TNNI1 (human) mapping to 1q32.1; Tnni1 (mouse) mapping to 1 E4.

## SOURCE

Troponin I-SS (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Troponin I-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-8119 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Troponin I-SS (C-19) is recommended for detection of Troponin I, slow skeletal muscle 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); may cross-react with Troponin I-FS.

Troponin I-SS (C-19) is also recommended for detection of Troponin I, slow skeletal muscle in additional species, including bovine and porcine.

Suitable for use as control antibody for Troponin I-SS siRNA (h): sc-37035, Troponin I-SS siRNA (m): sc-37036, Troponin I-SS shRNA Plasmid (h): sc-37035-SH, Troponin I-SS shRNA Plasmid (m): sc-37036-SH, Troponin I-SS shRNA (h) Lentiviral Particles: sc-37035-V and Troponin I-SS shRNA (m) Lentiviral Particles: sc-37036-V.

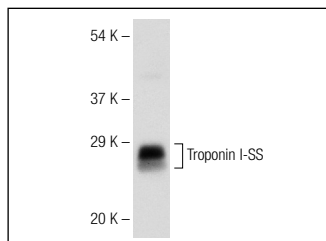
Molecular Weight (predicted) of Troponin I-SS: 22 kDa.

Molecular Weight (observed) of Troponin I-SS: 23-28 kDa.

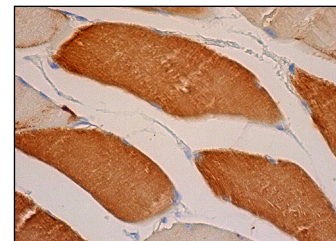
## STORAGE

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

## DATA



Troponin I-SS (C-19): sc-8119. Western blot analysis of Troponin I-SS expression in rat skeletal muscle tissue extract.



Troponin I-SS (C-19): sc-8119. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of subset of myocytes.

## SELECT PRODUCT CITATIONS

- Jouffroy, F.K., et al. 2003. Immunocytochemical characteristics of elbow, knee and ankle muscles of the five-toed jerboa (Allactaga elater). *J. Anat.* 202: 373-386.
- Kamei, Y., et al. 2004. Skeletal muscle FOXO1 (FKHR) transgenic mice have less skeletal muscle mass, down-regulated Type I (slow twitch/red muscle) fiber genes, and impaired glycemic control. *J. Biol. Chem.* 279: 41114-41123.
- Hwang, K., et al. 2007. Immunohistochemical study of differences between the muscle fiber types in the pars peripheralis and marginalis. *J. Craniofac. Surg.* 18: 591-593.
- Alapat, D.V., et al. 2009. Fiber-types of sarcomeric proteins expressed in cultured myogenic cells are modulated by the dose of myogenin activity. *Cell. Signal.* 21: 128-135.

## 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 I-SS (C-4): sc-514899** or **Troponin I-SS (A-12): sc-393330**, our highly recommended monoclonal alternatives to Troponin I-SS (C-19).