

Troponin C slow skeletal/cardiac (7B9): sc-52265

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 2 heavy chains (MHC) and 4 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 2 isoforms: fast and slow. Fast Troponin C has two calcium binding sites while slow/cardiac Troponin C has a single calcium binding site.

REFERENCES

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- Wu, A.H., Feng, Y.J., Moore, R., Apple, F.S., McPherson, P.H., Buechler, K.F. and Bodor, G. 1998. Characterization of cardiac Troponin subunit release into serum of myocardial infarction and comparison of assays for Troponin T and I. *Clin. Chem.* 44: 1198-1208.
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CHROMOSOMAL LOCATION

Genetic locus: *TNNC1* (human) mapping to 3p21.1; *Tnnc1* (mouse) mapping to 14 B.

SOURCE

Troponin C slow skeletal/cardiac (7B9) is a mouse monoclonal antibody raised against cardiac Troponin C of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Troponin C slow skeletal/cardiac (7B9) is recommended for detection of Troponin C slow skeletal/cardiac of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Troponin C slow skeletal/cardiac siRNA (h): sc-61724, Troponin C slow skeletal/cardiac siRNA (m): sc-43514, Troponin C slow skeletal/cardiac shRNA Plasmid (m): sc-43514-SH, Troponin C slow skeletal/cardiac shRNA (h) Lentiviral Particles: sc-61724-V and Troponin C slow skeletal/cardiac shRNA (m) Lentiviral Particles: sc-43514-V.

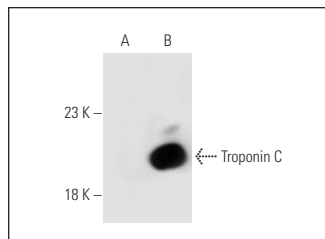
Molecular Weight of Troponin C slow skeletal/cardiac: 18 kDa.

Positive Controls: Troponin C (h): 293T Lysate: sc-114682, mouse heart extract: sc-2254 or rat heart extract: sc-2393.

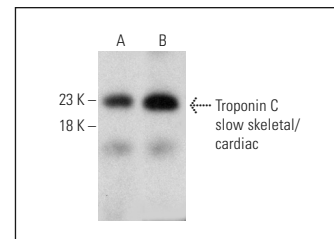
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Troponin C slow skeletal/cardiac (7B9): sc-52265. Western blot analysis of Troponin C expression in non-transfected: sc-117752 (A) and human Troponin C transfected: sc-114682 (B) 293T whole cell lysates.



Troponin C slow skeletal/cardiac (7B9): sc-52265. Western blot analysis of Troponin C slow skeletal/cardiac expression in mouse heart (A) and rat heart (B) tissue extracts.

SELECT PRODUCT CITATIONS

- Figueiredo-Freitas, C., Dulce, R.A., Foster, M.W., Liang, J., Yamashita, A.M., Lima-Rosa, F.L., Thompson, J.W., Moseley, M.A., Hare, J.M., Nogueira, L., Sorenson, M.M. and Pinto, J.R. 2015. S-nitrosylation of sarcomeric proteins depresses myofilament Ca²⁺ sensitivity in intact cardiomyocytes. *Antioxid. Redox Signal.* 23: 1017-1034.

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.