

p-Troponin I-C (1G11): sc-66159

BACKGROUND

Actin and Myosin are highly conserved proteins that are expressed in all eukaryotic cells. Actin filaments are crucial components of the contractile apparatus of muscle cells. Myosins interact with Actin to generate the force for diverse cellular movements. Troponin facilitates the interactions between Actin and Myosin by binding to Ca^{2+} . Troponin contains three subunits, Troponin C, I and T. Troponin C, the Ca^{2+} binding subunit, is expressed in cardiac and slow skeletal muscle, and is involved in regulating the excitation-contraction coupling in cardiac muscle. Troponin I, the inhibitory subunit of Troponin, exists as fast and slow skeletal muscle isoforms, which are differentially expressed in individual muscle fibers, and cardiac as Troponin I, which is exclusively expressed in cardiac muscle. Troponin T, the tropomyosin-binding subunit of Troponin, plays a role in conferring calcium-sensitivity to actomyosin ATPase activity, and it exists as fast and slow skeletal and cardiac isoforms.

REFERENCES

1. Parmacek, M.S., et al. 1989. Structure and expression of the murine slow/cardiac Troponin C gene. *J. Biol. Chem.* 264: 13217-13225.
2. Koppe, R.I., et al. 1989. cDNA clone and expression analysis of rodent fast and slow skeletal muscle Troponin I mRNAs. *J. Biol. Chem.* 264: 14327-14333.
3. Ausoni, S., et al. 1994. Structure and regulation of the mouse cardiac Troponin I gene. *J. Biol. Chem.* 269: 339-346.
4. Potter, J.D., et al. 1995. A direct regulatory role for Troponin T and a dual role for Troponin C in the Ca^{2+} regulation of muscle contraction. *J. Biol. Chem.* 270: 2557-2562.
5. Barkalow, K., et al. 1995. Actin cytoskeleton. Setting the pace of cell movement. *Curr. Biol.* 5: 1000-1002.
6. Baker, J.P., et al. 1998. Myosins: matching functions with motors. *Curr. Opin. Cell Biol.* 10: 80-86.
7. Squire, J.M., et al. 1998. A new look at thin filament regulation in vertebrate skeletal muscle. *FASEB J.* 12: 761-771.

CHROMOSOMAL LOCATION

Genetic locus: TNNI3 (human) mapping to 19q13.42.

SOURCE

p-Troponin I-C (1G11) is a mouse monoclonal antibody raised against a phosphorylated form of cardiac Troponin I of human origin.

PRODUCT

Each vial contains 100 μg IgG_{2b} 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.

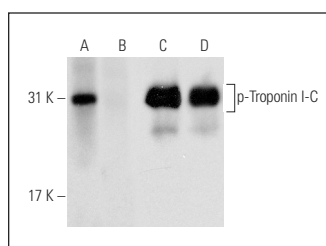
APPLICATIONS

p-Troponin I-C (1G11) is recommended for detection of a phosphorylated form of cardiac Troponin I of 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 I-C siRNA (h): sc-36738, Troponin I-C shRNA Plasmid (h): sc-36738-SH and Troponin I-C shRNA (h) Lentiviral Particles: sc-36738-V.

Molecular Weight of p-Troponin I-C: 30 kDa.

DATA



Western blot analysis of Troponin I-C phosphorylation in untreated (A, C) and lambda protein phosphatase (sc-200312A) treated (B, D) rat heart tissue extracts. Antibodies tested include p-Troponin I-C (1G11): sc-66159 (A, B) and Troponin I-C (M46): sc-52277 (C, D).

SELECT PRODUCT CITATIONS

1. Gilon, C., et al. 2020. Novel humanin analogs confer neuroprotection and myoprotection to neuronal and myoblast cell cultures exposed to ischemia-like and doxorubicin-induced cell death insults. *Peptides* 134: 170399.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.