

Troponin T-C (C-19): sc-8121

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 Ca²⁺. Troponin contains three subunits, Troponin C, I and T. Troponin C, the Ca²⁺ binding subunit, is expressed in cardiac and slow skeletal muscle, and it 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 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.

CHROMOSOMAL LOCATION

Genetic locus: TNNT2 (human) mapping to 1q32.1; Tnnt2 (mouse) mapping to 1 E4.

SOURCE

Troponin T-C (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Troponin T-C of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8121 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Troponin T-C (C-19) is recommended for detection of cardiac 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-C (C-19) is also recommended for detection of cardiac muscle Troponin T in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Troponin T-C siRNA (h): sc-36740, Troponin T-C siRNA (m): sc-36741, Troponin T-C shRNA Plasmid (h): sc-36740-SH, Troponin T-C shRNA Plasmid (m): sc-36741-SH, Troponin T-C shRNA (h) Lentiviral Particles: sc-36740-V and Troponin T-C shRNA (m) Lentiviral Particles: sc-36741-V.

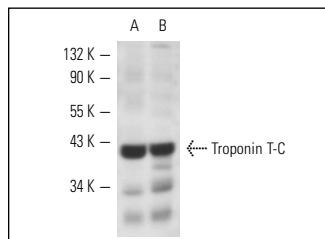
Molecular Weight of Troponin T-C: 39 kDa.

Positive Controls: C2C12 whole cell lysate, Sol8 cell lysate: sc-2249, or rat heart extract: sc-2393.

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-C (C-19): sc-8121. Western blot analysis of Troponin T-C expression in rat (A) and mouse (B) heart tissue extracts.

SELECT PRODUCT CITATIONS

- He, X., et al. 2003. ASK1 associates with Troponin T and induces Troponin T phosphorylation and contractile dysfunction in cardiomyocytes. *Am. J. Pathol.* 163: 243-251.
- Schubert, W., et al. 2003. Requirement of transcription factor NFAT in developing atrial myocardium. *J. Cell Biol.* 161: 861-874.
- Dawn, B., et al. 2004. IL-6 plays an obligatory role in late preconditioning via JAK-STAT signaling and upregulation of iNOS and COX-2. *Cardiovasc. Res.* 64: 61-71.
- Hahn, J.Y., et al. 2006. β-catenin overexpression reduces myocardial infarct size through differential effects on cardiomyocytes and cardiac fibroblasts. *J. Biol. Chem.* 281: 30979-30989.
- Chang, D.F., et al. 2007. LIM-only protein, CRP2, switched on smooth muscle gene activity in adult cardiac myocytes. *Proc. Natl. Acad. Sci. USA* 104: 157-162.
- Ahmad, F., et al. 2008. The role of cardiac Troponin T quantity and function in cardiac development and dilated cardiomyopathy. *PLoS ONE* 3: e2642.
- Nishii, K., et al. 2008. Targeted disruption of the cardiac Troponin T gene causes sarcomere disassembly and defects in heartbeat within the early mouse embryo. *Dev. Biol.* 322: 65-73.

RESEARCH USE

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



Try **Troponin T-C (CT3): sc-20025**, our highly recommended monoclonal alternative to Troponin T-C (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Troponin T-C (CT3): sc-20025**.