

Troponin C (C-20): sc-8117

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: TNNC2 (human) mapping to 20q13.12, TNNC1 (human) mapping to 3p21.1; Tnnc2 (mouse) mapping to 2 H3, Tnnc1 (mouse) mapping to 14 B.

SOURCE

Troponin C (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Troponin C 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-8117 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Troponin C (C-20) is recommended for detection of fast skeletal and slow skeletal/cardiac isoforms of Troponin C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Troponin C (C-20) is also recommended for detection of fast skeletal and slow skeletal/cardiac isoforms of Troponin C in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Troponin C: 18 kDa.

Positive Controls: L6 whole cell lysate: sc-364196, rat skeletal muscle extract: sc-364810 or SJRH30 cell lysate: sc-2287.

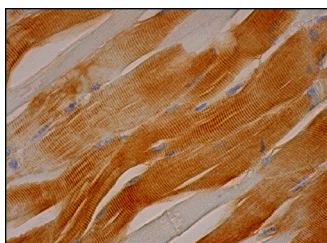
STORAGE

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.

DATA



Troponin C (C-20): sc-8117. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Ila, R., et al. 2006. Chronic-alcohol exposure alters IGF1 signaling in H9c2 cells via changes in PKC δ . *Alcohol* 39: 169-178.
2. 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.
3. 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.
4. Flores, O., et al. 2011. Hidden prenatal malnutrition in the rat: role of β_1 -adrenoceptors on synaptic plasticity in the frontal cortex. *J. Neurochem.* 119: 314-323.

PROTOCOLS

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



Try **Troponin C fast skeletal (E-7): sc-48347**, our highly recommended monoclonal alternative to Troponin C (C-20).