**BACKGROUND**

Actin is a highly conserved protein that is expressed in all eukaryotic cells and interacts with Myosin 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 three Troponin T (the link to the muscle thin filament) proteins, one of which functions as a Tropomysin-binding protein and is known as Troponin T-SS (Troponin T-Slow Skeletal). Defects in the gene encoding Troponin T-SS are the cause of nemaline myopathy type 5 (NEM5), a form of nemaline myopathy characterized by mild contractures of the shoulders and hips, tremors and respiratory problems that often lead to death. Troponin T-SS is expressed as three isoforms due to alternative splicing events.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: TNNT1 (human) mapping to 19q13.42; Tnnt1 (mouse) mapping to Chr 11. 

**SOURCE**

Troponin T-SS (A-9) is a mouse monoclonal antibody raised against amino acids 181-235 of Troponin T-SS of human origin.

**PRODUCT**

Each vial contains 200 µg IgGκ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Troponin T-SS (A-9) is available conjugated to agarose (sc-365014 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365014 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365014 PE), fluorescein (sc-365014 FITC), Alexa Fluor® 488 (sc-365014 AF488), Alexa Fluor® 546 (sc-365014 AF546), Alexa Fluor® 594 (sc-365014 AF594) or Alexa Fluor® 647 (sc-365014 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365014 AF680) or Alexa Fluor® 790 (sc-365014 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

Troponin T-SS (A-9) is recommended for detection of Troponin T-SS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).


Positive Controls: Jurkat whole cell lysate: sc-2204, COLO 320DM cell lysate: sc-2226 or HEK293 whole cell lysate: sc-45136.

**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 MarkerMolecular 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-358850.

**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.

**PROTOCOLS**

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

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