SANTA CRUZ BIOTECHNOLOGY, INC.

Titin (H-300): sc-28536

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Titin, also known as connectin, is a large protein involved in the temporal and spatial control of the assembly of the highly ordered sarcomeres (contractile units) of striated muscle. In addition to sarcomere assembly Titin also functions to maintain the structural integrity of the contracting myofibrils within the muscle and to organize the machinery for condensation of chromosomes in dividing cells. Titin is a giant protein composed of 27,000 amino acids and contains an autoregulated serine kinase catalytic domain as well as a calcium/calmodulin binding region that are involved in its activation. Activated Titin phosphorylates the muscle protein telethonin, a sarcomeric protein abundant in heart and skeletal muscle, implicating Titin activity in the reorganization of the cytoskeleton during myofibrillogenesis.

REFERENCES

1. Trinick, J. 1996. Titin as a scaffold and spring. Cytoskeleton. Curr. Biol. 6: 258-260.
2. Valle, G., et al. 1997. Telethonin, a novel sarcomeric protein of heart and skeletal muscle. FEBS Lett. 415: 163-168.
3. Means, A.R. 1998. The clash in Titin. Nature 395: 846-847.
4. Mayans, O., et al. 1998. Structural basis for activation of the Titin kinase domain during myofibrillogenesis. Nature 395: 863-869.
5. Gregorio, C.C., et al. 1999. Muscle assembly: a titanic achievement? Curr. Opin. Cell Biol. 11: 18-25.
6. Trinick, J. and Tskhovrebova, L. 1999. Titin: a molecular control freak. Trends Cell Biol. 9: 377-380.
7. Niederlander, N., et al. 2004. Regulation of the Actin-myosin interaction by Titin. Eur. J. Biochem. 271: 4572-4581.
8. Fukuda, N., et al. 2005. Phosphorylation of Titin modulates passive stiffness of cardiac muscle in a Titin isoform-dependent manner. J. Gen. Physiol. 125: 257-271.
9. Harris, B.N., et al. 2005. Calcium transients regulate Titin organization during myofibrillogenesis. Cell Motil. Cytoskeleton 60: 129-139.

CHROMOSOMAL LOCATION

Genetic locus: TTN (human) mapping to 2q31.2.

SOURCE

Titin (H-300) is a rabbit polyclonal antibody raised against amino acids 33124-33423 mapping at the C-terminus of Titin 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Titin (H-300) is recommended for detection of Titin of human origin by 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).

Titin (H-300) is also recommended for detection of Titin in additional species, including canine and bovine.

Suitable for use as control antibody for Titin siRNA (h): sc-43463, Titin shRNA Plasmid (h): sc-43463-SH and Titin shRNA (h) Lentiviral Particles: sc-43463-V.

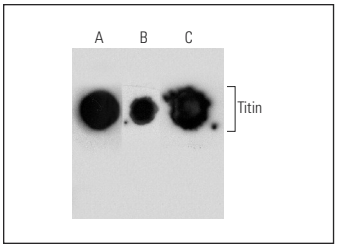
Molecular Weight of Titin: 3000 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Dot blot analysis of Titin expression in A-10 (**A**), SJRH30 (**B**) and Sol8 (**C**) whole cell lysates immunoprecipitated with Titin (H-300): sc-28536 and detected with Titin (E-2): sc-271946.

RESEARCH USE

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

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **Titin (E-2): sc-271946** or **Titin (E-4): sc-271945**, our highly recommended monoclonal alternatives to Titin (H-300).