

# Telethonin (53): sc-136097

## 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 as well as organizing 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., Faulkner, G., De Antoni, A., Pacchioni, B., Pallavicini, A., Pandolfo, D., Tiso, N., Toppo, S., Trevisan, S. and Lanfranchi, G. 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., van der Ven, P.F., Wilm, M., Mues, A., Young, P., Furst, D.O., Wilmanns, M. and Gautel, M. 1998. Structural basis for activation of the Titin kinase domain during myofibrillogenesis. Nature 395: 863-869. Published erratum appears in Nature 1999. 397: 719.
5. Gregorio, C.C., Granzier, H., Sorimachi, H. and Labeit, S. 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.

## CHROMOSOMAL LOCATION

Genetic locus: TCAP (human) mapping to 17q12; Tcap (mouse) mapping to 11 D.

## SOURCE

Telethonin (53) is a mouse monoclonal antibody raised against amino acids 1-167 representing full length Telethonin of mouse origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

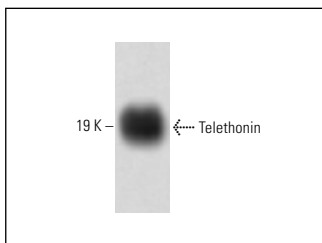
Telethonin (53) is recommended for detection of Telethonin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Telethonin siRNA (h): sc-36638, Telethonin siRNA (m): sc-36637, Telethonin shRNA Plasmid (h): sc-36638-SH, Telethonin shRNA Plasmid (m): sc-36637-SH, Telethonin shRNA (h) Lentiviral Particles: sc-36638-V and Telethonin shRNA (m) Lentiviral Particles: sc-36637-V.

Molecular Weight of Telethonin: 19 kDa.

Positive Controls: mouse heart extract: sc-2254, rat heart extract: sc-2393 or A-10 cell lysate: sc-3806.

## DATA



Telethonin (53): sc-136097. Western blot analysis of Telethonin expression in mouse heart tissue extract.

## RESEARCH USE

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



See **Telethonin (G-11): sc-25327** for Telethonin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.