

Telethonin (H-110): sc-20171

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., 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.

CHROMOSOMAL LOCATION

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

SOURCE

Telethonin (H-110) is a rabbit polyclonal antibody raised against amino acids 58-167 of Telethonin 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.

APPLICATIONS

Telethonin (H-110) 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), 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).

Telethonin (H-110) is also recommended for detection of Telethonin in additional species, including equine, canine, bovine and porcine.

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.

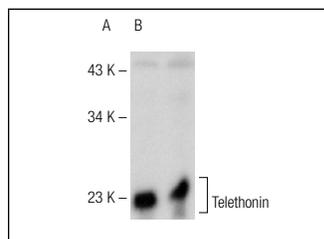
Molecular Weight of Telethonin: 19 kDa.

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

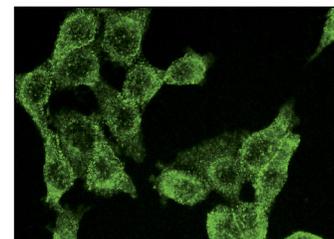
STORAGE

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

DATA



Telethonin (H-110): sc-20171. Western blot analysis of Telethonin expression in mouse skeletal muscle (A) and rat skeletal muscle (B) tissue extracts.



Telethonin (H-110): sc-20171. Immunofluorescence staining of methanol-fixed Sol8 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Ho, M., et al. 2004. Disruption of muscle membrane and phenotype divergence in two novel mouse models of dysferlin deficiency. *Hum. Mol. Genet.* 13: 1999-2010.
2. Bar-Shai, M. and Reznick, A.Z. 2006. Reactive nitrogen species induce nuclear factor-κB-mediated protein degradation in skeletal muscle cells. *Free Radic. Biol. Med.* 40: 2112-2125.
3. Tishkoff, D.X., et al. 2008. Functional vitamin D receptor (VDR) in the t-tubules of cardiac myocytes: VDR knockout cardiomyocyte contractility. *Endocrinology* 149: 558-564.
4. Mihatsch, K., et al. 2009. Proapoptotic protein Siva binds to the muscle protein Telethonin in cardio-myocytes during coxsackieviral infection. *Cardiovasc. Res.* 81: 108-115.

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
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Try **Telethonin (G-11): sc-25327** or **Telethonin (53): sc-136097**, our highly recommended monoclonal alternatives to Telethonin (H-110). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Telethonin (G-11): sc-25327**.