

# Myozenin 3 (L-17): sc-74980

## BACKGROUND

Myozenins, which includes Myozenin 1, Myozenin 2 and Myozenin 3, are a family of intracellular binding proteins that are involved in linking Z-disk proteins to the sarcomere. Myozenin 3, also known as calsarcin-3 or FATZ-related protein 3 (FRP3), is a 251 amino acid protein expressed specifically in skeletal muscle and enriched in fast-twitch muscle fibers. Myozenin 3, like Myozenin 1 and 2, interacts with calnecurin and the Z-disc proteins  $\alpha$ -actinin, Filamin 2, and Telethonin. Myozenin 3 plays an important role in the modulation of calnecurin signaling, and it is thought to play a role in myofibrillogenesis. Due to the close involvement of Myozenin 3 with muscle formation, mutations in the gene encoding Myozenin 3 may be associated with muscular dystrophies and neuromuscular myopathies. Three isoforms of Myozenin 3 exist as a result of alternative splicing events.

## REFERENCES

1. Frey, N. and Olson, E.N. 2002. Calsarcin-3, a novel skeletal muscle-specific member of the calsarcin family, interacts with multiple Z-disc proteins. *J. Biol. Chem.* 277: 13998-14004.
2. Martin, L.J., et al. 2004. Major quantitative trait locus for resting heart rate maps to a region on chromosome 4. *Hypertension* 43: 1146-1151.
3. Gontier, Y., et al. 2005. The Z-disc proteins myotilin and FATZ-1 interact with each other and are connected to the sarcolemma via muscle-specific filamins. *J. Cell Sci.* 118: 3739-3749.
4. Wang, H., et al. 2007. NF $\kappa$ B mediates the transcription of mouse calsarcin-1 gene, but not calsarcin-2, in C2C12 cells. *BMC Mol. Biol.* 8: 19.
5. Schoensiegel, F., et al. 2007. Atrial natriuretic peptide and osteopontin are useful markers of cardiac disorders in mice. *Comp. Med.* 57: 546-553.
6. Arola, A.M., et al. 2007. Mutations in PDLIM3 and MYOZ1 encoding myocyte Z line proteins are infrequently found in idiopathic dilated cardiomyopathy. *Mol. Genet. Metab.* 90: 435-440.

## CHROMOSOMAL LOCATION

Genetic locus: MYOZ3 (human) mapping to 5q33.1; Myoz3 (mouse) mapping to 18 D3.

## SOURCE

Myozenin 3 (L-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Myozenin 3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74980 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Myozenin 3 (L-17) is recommended for detection of Myozenin 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Myozenin 3 (L-17) is also recommended for detection of Myozenin 3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Myozenin 3 siRNA (h): sc-75854, Myozenin 3 siRNA (m): sc-75855, Myozenin 3 shRNA Plasmid (h): sc-75854-SH, Myozenin 3 shRNA Plasmid (m): sc-75855-SH, Myozenin 3 shRNA (h) Lentiviral Particles: sc-75854-V and Myozenin 3 shRNA (m) Lentiviral Particles: sc-75855-V.

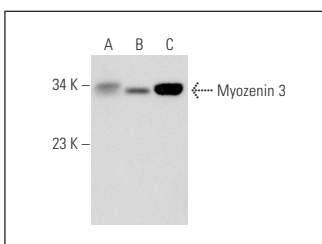
Molecular Weight of Myozenin 3: 27 kDa.

Positive Controls: human skeletal muscle extract: sc-363776, mouse skeletal muscle extract: sc-364250 or rat skeletal muscle extract: sc-364810.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>TM</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>TM</sup> Mounting Medium: sc-24941.

## DATA



Myozenin 3 (L-17): sc-74980. Western blot analysis of Myozenin 3 expression in human skeletal muscle (A), mouse skeletal muscle (B) and rat skeletal muscle (C) tissue extracts.

## RESEARCH USE

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

## PROTOCOLS

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