

Myozenin 3 (N-14): sc-74981

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 α -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 κ 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 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Myozenin 3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-74981 P, (100 μ 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 (N-14) 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 μ g per 100-500 μ 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 (N-14) 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.

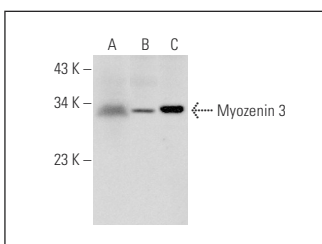
Molecular Weight of Myozenin 3: 27 kDa.

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 MarkerTM compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz MarkerTM 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 UltraCruzTM Mounting Medium: sc-24941.

DATA



Myozenin 3 (N-14): sc-74981. 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 or our catalog for detailed protocols and support products.