SANTA CRUZ BIOTECHNOLOGY, INC.

Myoferlin (H-111): sc-134798

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Myoferlin, also known as Fer-1-like protein 3, is a member of the ferlin family of proteins and is structurally similar to dysferlin. It is a type II transmembrane protein with a single transmembrane domain very near the C-terminus, an SH3 domain and six C2 domains in the C-terminus (designated C2A-C2F). Myoferlin is predominantly expressed in cardiac and skeletal muscle and it localizes to the nuclear and plasma membranes. The C2 domains of Myoferlin may be involved in calcium-mediated membrane fusion events suggesting that Myoferlin may play a role in membrane regeneration and repair. Myoferlin is also responsible for regulating the stability and signaling of Flk-1, the VEGF receptor-2. The loss of Myoferlin prevents proliferation, migration and the release of nitric oxide (NO) in response to VEGF. In addition, Myoferlin may be implicated in various types of muscular dystrophy and cardiomyopathy.

REFERENCES

1. Davis, D.B., et al. 2000. Myoferlin, a candidate gene and potential modifier of muscular dystrophy. Hum. Mol. Genet. 9: 217-226.
2. Yasunaga, S., et al. 2000. OTOF encodes multiple long and short isoforms: genetic evidence that the long ones underlie recessive deafness DFNB9. Am. J. Hum. Genet. 67: 591-600.
3. Britton, S., et al. 2000. The third human FER-1-like protein is highly similar to dysferlin. Genomics 68: 313-321.
4. Davis, D.B., et al. 2002. Calcium-sensitive phospholipid binding properties of normal and mutant ferlin C2 domains. J. Biol. Chem. 277: 22883-22888.
5. Doherty, K.R., et al. 2005. Normal myoblast fusion requires myoferlin. Development 132: 5565-5575.
6. Inoue, M., et al. 2006. Expression of myoferlin in skeletal muscles of patients with dysferlinopathy. Tohoku J. Exp. Med. 209: 109-116.
7. Therrien,C., et al. 2006. Mutation impact on dysferlin inferred from database analysis and computer-based structural predictions. J. Neurol. Sci. 250: 71-78.

CHROMOSOMAL LOCATION

Genetic locus: MYOF (human) mapping to 10q23.33; Myof (mouse) mapping to 19 C2.

SOURCE

Myoferlin (H-111) is a rabbit polyclonal antibody raised against amino acids 88-198 mapping near the N-terminus of Myoferlin 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

Myoferlin (H-111) is recommended for detection of Myoferlin 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).

Suitable for use as control antibody for Myoferlin siRNA (h): sc-72293, Myoferlin siRNA (m): sc-72294, Myoferlin shRNA Plasmid (h): sc-72293-SH, Myoferlin shRNA Plasmid (m): sc-72294-SH, Myoferlin shRNA (h) Lentiviral Particles: sc-72293-V and Myoferlin shRNA (m) Lentiviral Particles: sc-72294-V.

Molecular Weight of Myoferlin isoforms: 235/180 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ 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 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.

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.