

Myoferlin (K-16): sc-51367

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

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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.
8. Bernatchez, P.N., et al. 2007. Myoferlin regulates vascular endothelial growth factor (VEGF) receptor-2 stability and functions. *J. Biol. Chem.* 282: 30745-30753

CHROMOSOMAL LOCATION

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

SOURCE

Myoferlin (K-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain 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.

Blocking peptide available for competition studies, sc-51367 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Myoferlin (K-16) 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), 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).

Myoferlin (K-16) is also recommended for detection of Myoferlin in additional species, including canine, bovine, porcine and avian.

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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) 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™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Turtoi, A., et al. 2013. Myoferlin is a key regulator of EGFR activity in breast cancer. *Cancer Res.* 73: 5438-5448.

STORAGE

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

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.



Try **Myoferlin (D-11): sc-376879**, our highly recommended monoclonal alternative to Myoferlin (K-16).