

Myoferlin (D-11): sc-376879

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.

CHROMOSOMAL LOCATION

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

SOURCE

Myoferlin (D-11) is a mouse monoclonal antibody raised against amino acids 88-198 mapping near the N-terminus of Myoferlin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Myoferlin (D-11) is available conjugated to agarose (sc-376879 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376879 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376879 PE), fluorescein (sc-376879 FITC), Alexa Fluor® 488 (sc-376879 AF488), Alexa Fluor® 546 (sc-376879 AF546), Alexa Fluor® 594 (sc-376879 AF594) or Alexa Fluor® 647 (sc-376879 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376879 AF680) or Alexa Fluor® 790 (sc-376879 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Myoferlin (D-11) is recommended for detection of Myoferlin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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.

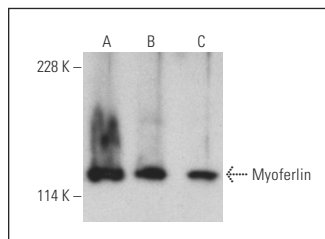
Molecular Weight of Myoferlin isoforms: 235/180 kDa.

Positive Controls: M1 whole cell lysate: sc-364782, AMJ2-C8 whole cell lysate: sc-364366 or A-10 cell lysate: sc-3806.

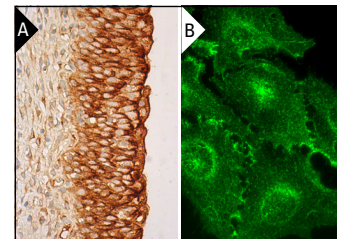
STORAGE

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

DATA



Myoferlin (D-11) HRP: sc-376879 HRP. Direct western blot analysis of Myoferlin expression in M1 (A), AMJ2-C8 (B) and A-10 (C) whole cell lysates.



Myoferlin (D-11): sc-376879. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing membrane and cytoplasmic staining of urothelial cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (B).

SELECT PRODUCT CITATIONS

- Zhang, W., et al. 2018. Down-regulating Myoferlin inhibits the vasculogenic mimicry of melanoma via decreasing MMP-2 and inducing mesenchymal-to-epithelial transition. *J. Cell. Mol. Med.* 22: 1743-1754.
- Tölle, R.C., et al. 2018. Three-dimensional cell culture conditions affect the proteome of cancer-associated fibroblasts. *J. Proteome Res.* 17: 2780-2789.
- Nozato, Y., et al. 2020. Novel properties of Myoferlin in glucose metabolism via pathways involving modulation of adipose functions. *FASEB J.* 34: 2792-2811.
- Kim, J.Y., et al. 2020. A kinome-wide screen identifies a CDKL5-SOX9 regulatory axis in epithelial cell death and kidney injury. *Nat. Commun.* 11: 1924.
- Reischmann, N., et al. 2020. BRAF^{V600E} drives dedifferentiation in small intestinal and colonic organoids and cooperates with mutant p53 and Apc loss in transformation. *Oncogene* 39: 6053-6070.
- Gao, S., et al. 2021. RIPK3 modulates growth factor receptor expression in endothelial cells to support angiogenesis. *Angiogenesis* 24: 519-531.
- Gu, H., et al. 2023. Discovery of a highly potent and selective MYOF inhibitor with improved water solubility for the treatment of gastric cancer. *J. Med. Chem.* 66: 16917-16938.
- Anania, S., et al. 2024. Identification of myoferlin as a mitochondria-associated membranes component required for calcium signaling in PDAC cell lines. *Cell Commun. Signal.* 22: 133.

RESEARCH USE

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

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