

MYH2 (A4.1519): sc-53094

BACKGROUND

Myosin is a highly conserved, ubiquitously expressed protein that interacts with Actin to generate the force for cellular movements. Conventional myosins are hexameric proteins consisting of two heavy chain subunits, a pair of non-phosphorylatable light chain subunits and a pair of phosphorylatable light chain subunits. Three general classes of myosin have been cloned: smooth muscle myosins, striated muscle myosins and non-muscle myosins. Contractile activity in smooth muscle is regulated by the calcium/calmodulin-dependent phosphorylation of myosin light chain (MLC) by myosin light chain kinase. Myosin heavy chains, which are encoded by the MYH gene family, contain Actin-activated ATPase activity which generates the motor function of myosin. Myosin heavy chains were initially isolated from a human fetal skeletal muscle and are the major determinant in the speed of contraction of skeletal muscle. Various isoforms of myosin heavy chains are differentially expressed depending on the functional activity of the muscle.

REFERENCES

1. Saez, C.G., et al. 1990. Human nonmuscle myosin heavy chain mRNA: generation of diversity through alternative polyadenylation. *Proc. Natl. Acad. Sci. USA* 87: 1164-1168.
2. Hughes, S.M., et al. 1993. Three slow myosin heavy chains sequentially expressed in developing mammalian skeletal muscle. *Dev. Biol.* 158: 183-199.

CHROMOSOMAL LOCATION

Genetic locus: MYH2 (human) mapping to 17p13.1; Myh2 (mouse) mapping to 11 B3.

SOURCE

MYH2 (A4.1519) is a mouse monoclonal antibody raised against adult skeletal muscle myosin of human origin.

PRODUCT

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

APPLICATIONS

MYH2 (A4.1519) is recommended for detection of fast and early like sarcomeric MYH2 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MYH2 siRNA (h): sc-106273, MYH2 siRNA (m): sc-149741, MYH2 shRNA Plasmid (h): sc-106273-SH, MYH2 shRNA Plasmid (m): sc-149741-SH, MYH2 shRNA (h) Lentiviral Particles: sc-106273-V and MYH2 shRNA (m) Lentiviral Particles: sc-149741-V.

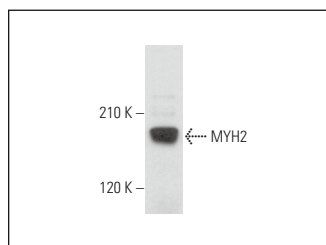
Molecular Weight of MYH2: 200 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810, human skeletal muscle extract: sc-363776 or L6 whole cell lysate: sc-364196.

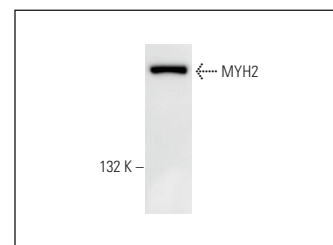
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MYH2 (A4.1519): sc-53094. Western blot analysis of MYH2 expression in human skeletal muscle tissue extract.



MYH2 (A4.1519): sc-53094. Western blot analysis of MYH2 expression in rat skeletal muscle tissue extract.

SELECT PRODUCT CITATIONS

1. Hershey, J.D., et al. 2008. Minimal seasonal alterations in the skeletal muscle of captive brown bears. *Physiol. Biochem. Zool.* 81: 138-147.
2. Gastaldello, S., et al. 2013. Caspase-1 promotes Epstein-Barr virus replication by targeting the large tegument protein deneddylase to the nucleus of productively infected cells. *PLoS Pathog.* 9: e1003664.
3. Men, X.M., et al. 2016. Association analysis of myosin heavy-chain genes mRNA transcription with the corresponding proteins expression of longissimus muscle in growing pigs. *Asian-Australas. J. Anim. Sci.* 29: 457-463.
4. da Rocha, A.L., et al. 2017. Treadmill slope modulates inflammation, fiber type composition, androgen, and glucocorticoid receptors in the skeletal muscle of overtrained mice. *Front. Immunol.* 8: 1378.
5. Freire, P.P., et al. 2021. Decreased miR-497-5p suppresses IL-6 induced atrophy in muscle cells. *Cells* 10: 3527.

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 for detailed protocols and support products.