

MYH2 (6D595): sc-71632

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 (6D595) is a mouse monoclonal antibody raised against neonatal skeletal muscle Myosin 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.

APPLICATIONS

MYH2 (6D595) is recommended for detection of neonatal slow like MYH2 of mouse, rat, human, rabbit and fish 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.

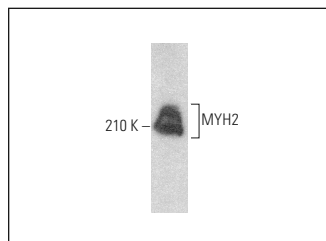
Molecular Weight of MYH2: 200 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810, RD whole cell lysate: sc-364791 or human skeletal muscle extract: sc-363776.

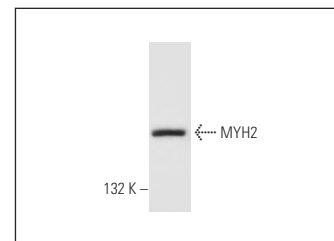
STORAGE

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

DATA



MYH2 (6D595): sc-71632. Western blot analysis of MYH2 expression in human skeletal muscle tissue extract.



MYH2 (6D595): sc-71632. Western blot analysis of MYH2 expression in rat skeletal tissue extract.

SELECT PRODUCT CITATIONS

1. Orbán T.I., et al. 2009. Applying a "double-feature" promoter to identify cardiomyocytes differentiated from human embryonic stem cells following transposon-based gene delivery. *Stem Cells* 27: 1077-1087.
2. Moon, Y.M., et al. 2016. Apoptotic action of botulinum toxin on masseter muscle in rats: early and late changes in the expression of molecular markers. *Springerplus* 5: 991.
3. Liu, X., et al. 2017. Fibroblast growth factor 21 (FGF21) promotes formation of aerobic myofibers via the FGF21-SIRT1-AMPK-PGC1α pathway. *J. Cell. Physiol.* 232: 1893-1906.
4. Duan, Y., et al. 2017. Alteration of muscle fiber characteristics and the AMPK-SIRT1-PGC-1α axis in skeletal muscle of growing pigs fed low-protein diets with varying branched-chain amino acid ratios. *Oncotarget* 8: 107011-107021.
5. 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.
6. Gu, H., et al. 2021. Targeted overexpression of PPARγ in skeletal muscle by random insertion and CRISPR/Cas9 transgenic pig cloning enhances oxidative fiber formation and intramuscular fat deposition. *FASEB J.* 35: e21308.
7. Zhang, L., et al. 2022. Potential nutritional healthy-aging strategy: enhanced protein metabolism by balancing branched-chain amino acids in a finishing pig model. *Food Funct.* 13: 6217-6232.

RESEARCH USE

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



See **MYH2 (A4.74): sc-53095** for MYH2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.