

# MYH2 (A4.74): sc-53095

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

MYH2 (A4.74) is a mouse monoclonal antibody raised against adult skeletal muscle Myosin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MYH2 (A4.74) is available conjugated to agarose (sc-53095 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53095 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53095 PE), fluorescein (sc-53095 FITC), Alexa Fluor® 488 (sc-53095 AF488), Alexa Fluor® 546 (sc-53095 AF546), Alexa Fluor® 594 (sc-53095 AF594) or Alexa Fluor® 647 (sc-53095 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53095 AF680) or Alexa Fluor® 790 (sc-53095 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

MYH2 (A4.74) is recommended for detection of MYH2 of mouse, rat, human and rabbit 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 immunohistochemistry (including paraffin-embedded sections) (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.

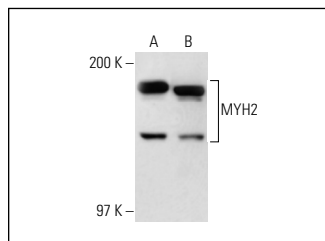
Molecular Weight of MYH2: 200 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810, RD whole cell lysate: sc-394791 or L6 whole cell lysate: sc-364196.

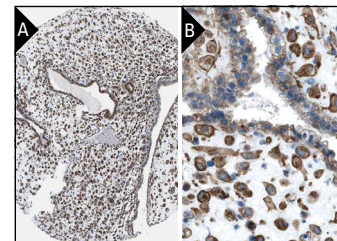
## STORAGE

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

## DATA



MYH2 (A4.74): sc-53095. Western blot analysis of MYH2 expression in RD (A) and L6 (B) whole cell lysates.



MYH2 (A4.74): sc-53095. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual and trophoblastic cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Karaöz, E. 2009. Pancreatic islet-derived stem cells may have a key role in type 1 diabetes pathogenesis. *Cell Tissue Biol. Res.* 2: 8-22.
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- Jia, A.F., et al. 2015. Effects of immunological challenge induced by lipopolysaccharide on skeletal muscle fiber type conversion of piglets. *J. Anim. Sci.* 93: 5194-5203.
- Zhang, Y., et al. 2016. FHL3 differentially regulates the expression of MyHC isoforms through interactions with MyoD and pCREB. *Cell. Signal.* 28: 60-73.
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- Hwang, M., et al. 2020. Five transcriptional factors reprogram fibroblast into myogenic lineage cells via paraxial mesoderm stage. *Cell Cycle* 19: 1804-1816.
- Iwasaki, H., et al. 2021. MicroRNA-494-3p inhibits formation of fast oxidative muscle fibres by targeting E1A-binding protein p300 in human-induced pluripotent stem cells. *Sci. Rep.* 11: 1161.
- Jia, L., et al. 2022. VEGF alleviates lower limb ischemia in diabetic mice by altering muscle fiber types. *Exp. Ther. Med.* 23: 251.
- Bai, W., et al. 2023. FHL3 promotes the formation of fast glycolytic muscle fibers by interacting with YY1 and muscle glycolytic metabolism. *Cell. Mol. Life Sci.* 80: 27.

## RESEARCH USE

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

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