

MYH1/2 (A4.1025): sc-53088

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 by Myosin light chain kinase. Myosin heavy chains are encoded by the MYH gene family and have Actin-activated ATPase activity which generates the motor function of Myosin. Myosin heavy chains, which were initially isolated from a human fetal skeletal muscle, are the major determinant in the speed of contraction of skeletal muscle. Various isoforms of Myosin heavy chain are differentially expressed depending on the functional activity of the muscle.

CHROMOSOMAL LOCATION

Genetic locus: MYH1/MYH2 (human) mapping to 17p13.1.

SOURCE

MYH1/2 (A4.1025) is a mouse monoclonal antibody raised against adult skeletal muscle Myosin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MYH1/2 (A4.1025) is available conjugated to agarose (sc-53088 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53088 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53088 PE), fluorescein (sc-53088 FITC), Alexa Fluor[®] 488 (sc-53088 AF488), Alexa Fluor[®] 546 (sc-53088 AF546), Alexa Fluor[®] 594 (sc-53088 AF594) or Alexa Fluor[®] 647 (sc-53088 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-53088 AF680) or Alexa Fluor[®] 790 (sc-53088 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

MYH1/2 (A4.1025) is recommended for detection of Myosin heavy chains encoded by MYH1 and MYH2 of mammal, avian, amphibian 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).

Molecular Weight of MYH1/2: 200 kDa.

Positive Controls: A-10 cell lysate: sc-3806, RD whole cell lysate: sc-364791 or NIH/3T3 whole cell lysate: sc-2210.

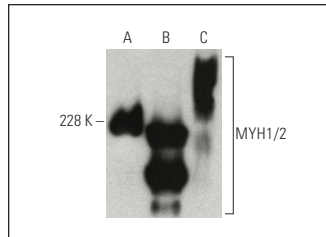
STORAGE

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

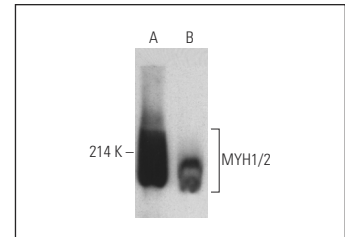
RESEARCH USE

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

DATA



MYH1/2 (A4.1025) HRP: sc-53088 HRP. Direct western blot analysis of MYH1/2 expression in RD (A), NIH/3T3 (B) and A-10 (C) whole cell lysates.



MYH1/2 (A4.1025): sc-53088. Western blot analysis of MYH1/2 expression in RD (A) and C2C12 (B) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Grimaldi, A., et al. 2009. Identification, isolation and expansion of myoendothelial cells involved in leech muscle regeneration. *PLoS ONE* 4: e7652.
2. Sjogren, R.J., et al. 2015. Temporal analysis of reciprocal miRNA-mRNA expression patterns predicts regulatory networks during differentiation in human skeletal muscle cells. *Physiol. Genomics* 47: 45-57.
3. Cheng, A.M., et al. 2016. Celecoxib and pioglitazone as potential therapeutics for regulating TGF-β-induced hyaluronan in dysthyroid myopathy. *Invest. Ophthalmol. Vis. Sci.* 57: 1951-1959.
4. Zou, T., et al. 2017. Moderate maternal energy restriction during gestation in pigs attenuates fetal skeletal muscle development through changing myogenic gene expression and myofiber characteristics. *Reprod. Sci.* 24: 156-167.
5. Lassiter, D.G., et al. 2018. AMPK activation negatively regulates GDAP1, which influences metabolic processes and circadian gene expression in skeletal muscle. *Mol. Metab.* 16: 12-23.
6. Abdelmoez, A.M., et al. 2020. Comparative profiling of skeletal muscle models reveals heterogeneity of transcriptome and metabolism. *Am. J. Physiol., Cell Physiol.* 318: C615-C626.
7. Diao, Z., et al. 2021. Stimulation of myogenesis by ascorbic acid and capsaicin. *Biochem. Biophys. Res. Commun.* 568: 83-88.
8. Maniscalco, E., et al. 2023. Metformin regulates myoblast differentiation through an AMPK-dependent mechanism. *PLoS ONE* 18: e0281718.
9. Huang, H.H., et al. 2024. Sarcopenia-related changes in serum GLP-1 level affect myogenic differentiation. *J. Cachexia Sarcopenia Muscle*. E-published.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.