SANTA CRUZ BIOTECHNOLOGY, INC.

MYH (B-5): sc-376157

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

SOURCE

MYH (B-5) is a mouse monoclonal antibody raised against amino acids 1641-1940 of myosin heavy chain 3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MYH (B-5) is available conjugated to agarose (sc-376157 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376157 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376157 PE), fluorescein (sc-376157 FITC), Alexa Fluor® 488 (sc-376157 AF488), Alexa Fluor® 546 (sc-376157 AF546), Alexa Fluor® 594 (sc-376157 AF594) or Alexa Fluor® 647 (sc-376157 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376157 AF680) or Alexa Fluor® 790 (sc-376157 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

MYH (B-5) is recommended for detection of skeletal and cardiac Myosin heavy chain 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).

Molecular Weight of MYH: 200 kDa.

Positive Controls: mouse skeletal muscle extract: sc-364250, mouse heart extract: sc-2254 or Sol8 cell lysate: sc-2249.

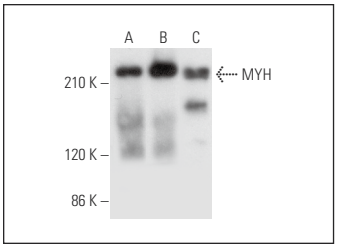
STORAGE

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

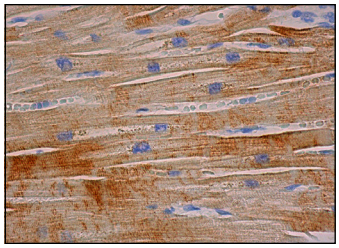
RESEARCH USE

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

DATA



MYH (B-5): sc-376157. Western blot analysis of MYH expression in mouse heart (**A**) and mouse skeletal muscle (**B**) tissue extracts and Sol8 whole cell lysate (**C**).



MYH (B-5): sc-376157. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Ramazzotti, G., et al. 2016. IPMK and β-catenin mediate PLC-β1-dependent signaling in myogenic differentiation. Oncotarget 7: 84118-84127.
2. Zhu, M., et al. 2017. NDRG4 promotes myogenesis via Akt/CREB activation. Oncotarget 8: 101720-101734.
3. Hu, M., et al. 2018. Deubiquitinase inhibitor auranofin attenuated cardiac hypertrophy by blocking NFκB activation. Cell. Physiol. Biochem. 45: 2421-2430.
4. Hong, Y., et al. 2019. Amelioration of muscle wasting by glucagon-like peptide-1 receptor agonist in muscle atrophy. J. Cachexia Sarcopenia Muscle 10: 903-918.
5. O'Brien, M.E., et al. 2020. Tumor necrosis factor-α regulates skeletal myogenesis by inhibiting SP1 interaction with cis-acting regulatory elements within the Fbxl2 gene promoter. Mol. Cell. Biol. 40: e00040-20.
6. Lv, W., et al. 2021. Single nucleotide polymorphisms of porcine lncMGPF regulate meat production traits by affecting RNA stability. Front. Cell Dev. Biol. 9: 731712.
7. Hsieh, Li., et al. 2022. Identification of agents that ameliorate hyperphosphatemia-suppressed myogenin expression involved in the Nrf2/p62 pathway in C2C12 skeletal muscle cells. Int. J. Mol. Sci. 23: 15324.
8. Hong, S.M., et al. 2023. Aerobic exercise ameliorates muscle atrophy induced by methylglyoxal via increasing gastrocnemius and extensor digitorum longus muscle sensitivity. Biomol. Ther. 31: 573-582.
9. Chen, X., et al. 2024. Hyperglycemia activates FGFR1 via TLR4/c-Src pathway to induce inflammatory cardiomyopathy in diabetes. Acta Pharm. Sin. B 14: 1693-1710.

PROTOCOLS

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