

## MYH11 (G-4): sc-6956



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 (such as MYH11), 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, 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

- Nagai, R., et al. 1989. Vertebrate smooth muscle myosin heavy chains (MHCs) exist as two isoforms with molecular masses of 204 and 200 kDa (MHC204 and MHC200) that are generated from a single gene by alternative splicing of mRNA. *J. Biol. Chem.* 264: 9734-9737.
- Karsch-Mizrachi, I., et al. 1990. Generation of a full-length human perinatal myosin heavy-chain-encoding cDNA. *Gene* 89: 289-294.

## CHROMOSOMAL LOCATION

Genetic locus: MYH11 (human) mapping to 16p13.11; Myh11 (mouse) mapping to 16 A1.

## SOURCE

MYH11 (G-4) is a mouse monoclonal antibody raised against full length smooth muscle myosin heavy chain of rat origin.

## PRODUCT

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

MYH11 (G-4) is available conjugated to agarose (sc-6956 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6956 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-6956 PE), fluorescein (sc-6956 FITC), Alexa Fluor® 488 (sc-6956 AF488), Alexa Fluor® 546 (sc-6956 AF546), Alexa Fluor® 594 (sc-6956 AF594) or Alexa Fluor® 647 (sc-6956 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-6956 AF680) or Alexa Fluor® 790 (sc-6956 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

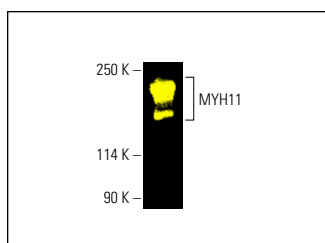
## APPLICATIONS

MYH11 (G-4) is recommended for detection of myosin heavy chain 11, isoforms SM1 and SM2 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). MYH11 (G-4) is also recommended for detection of myosin heavy chain 11, isoforms SM1 and SM2 in additional species, including bovine and porcine.

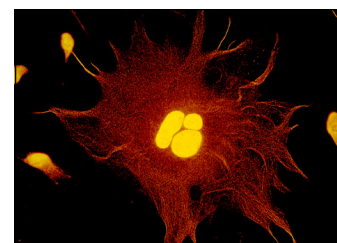
Suitable for use as control antibody for MYH11 siRNA (h): sc-76523, MYH11 siRNA (m): sc-76524, MYH11 shRNA Plasmid (h): sc-76523-SH, MYH11 shRNA Plasmid (m): sc-76524-SH, MYH11 shRNA (h) Lentiviral Particles: sc-76523-V and MYH11 shRNA (m) Lentiviral Particles: sc-76524-V.

Molecular Weight of MYH11: 200 kDa.

## DATA



MYH11 (G-4): sc-6956. Fluorescent western blot analysis of MYH11 expression in mouse bladder tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG<sub>1</sub> BP-CFL 488: sc-533661.



MYH11 (G-4): sc-6956. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoskeletal rhodamine immunostaining of MYH11. Note also nuclear rhodamine immunostaining with Cdk4 (C-22): sc-260.

## SELECT PRODUCT CITATIONS

- Wong, A.S., et al. 2001. Coexpression of hepatocyte growth factor-Met: an early step in ovarian carcinogenesis? *Oncogene* 20: 1318-1328.
- Zhu, M., et al. 2019. In vivo engineered extracellular matrix scaffolds with instructive niches for oriented tissue regeneration. *Nat. Commun.* 10: 4620.
- He, W., et al. 2020. Alterations in the phosphodiesterase type 5 pathway and oxidative stress correlate with erectile function in spontaneously hypertensive rats. *J. Cell. Mol. Med.* 24: 14280-14292.
- Wang, Y., et al. 2021. Effect of EZH2 on pulmonary artery smooth muscle cell migration in pulmonary hypertension. *Mol. Med. Rep.* 23: 129.
- Wang, R., et al. 2022. Smooth muscle myosin localizes at the leading edge and regulates the redistribution of Actin-regulatory proteins during migration. *Cells* 11: 2334.
- Xu, X., et al. 2023. Sox10 escalates vascular inflammation by mediating vascular smooth muscle cell transdifferentiation and pyroptosis in neointimal hyperplasia. *Cell Rep.* 42: 112869.

## RESEARCH USE

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