SANTA CRUZ BIOTECHNOLOGY, INC.

# MYH11 (G-4): sc-6956

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 (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.

## 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 $IgG_1$ 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.

## 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 $10^6$ 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.

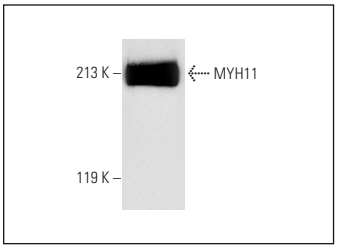
Suitable for use as control antibody for MYH11 siRNA (h): sc-76523, MYH11 siRNA (m): sc-76524, MYH11 shRNA Plasmid (h): sc-76523-SH, MYH11 shRNA Plasmid (m): sc-76524-SH, MYH11 shRNA (h) Lentiviral Particles: sc-76523-V and MYH11 shRNA (m) Lentiviral Particles: sc-76524-V.

Molecular Weight of MYH11: 200 kDa.

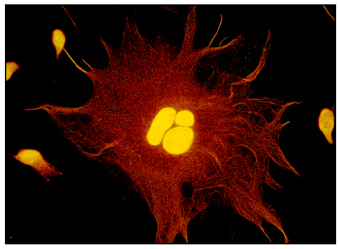
## STORAGE

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

## DATA




MYH11 (G-4): sc-6956. Western blot analysis of MYH11 expression in A-10 whole cell lysate.



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


1. Wong, A.S., et al. 2001. Coexpression of hepatocyte growth factor-met: an early step in ovarian carcinogenesis? Oncogene 20: 1318-1328.
2. Breen, D.M., et al. 2009. Insulin increases reendothelialization and inhibits cell migration and neointimal growth after arterial injury. Arterioscler. Thromb. Vasc. Biol. 29: 1060-1066.
3. Capoano, C.A., et al. 2010. Spats 1 (Srsp1) is differentially expressed during testis development of the rat. Gene Expr. Patterns 10: 1-8.
4. Li, X., et al. 2011. Uniaxial mechanical strain modulates the differentiation of neural crest stem cells into smooth muscle lineage on micropatterned surfaces. PLoS ONE 6: e26029.
5. Zhang, X., et al. 2012. Testosterone regulates smooth muscle contractile pathways in the rat prostate: emphasis on PDE5 signaling. Am. J. Physiol. Endocrinol. Metab. 302: E243-E253.
6. Cheung, K.J., et al. 2013. Collective invasion in breast cancer requires a conserved basal epithelial program. Cell 155: 1639-1651.
7. Jones, S.G., et al. 2014. Stem cells accumulate on a decellularized arterial xenograft *in vivo*. Ann. Thorac. Surg. 97: 2104-2110.
8. Andrade, B.M., et al. 2015. Bone marrow mesenchymal cells improve muscle function in a skeletal muscle re-injury model. PLoS ONE 10: e0127561.
9. Jia, B., et al. 2016. GPR30 promotes prostate stromal cell activation via suppression of ERα expression and its downstream signaling pathway. Endocrinology 157: 3023-3035.
10. Zhang, W., et al. 2017. FAM3B mediates high glucose-induced vascular smooth muscle cell proliferation and migration via inhibition of miR-322-5p. Sci. Rep. 7: 2298.


## RESEARCH USE

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