SANTA CRUZ BIOTECHNOLOGY, INC.

MYH11 (I-5): sc-65734

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.

REFERENCES

1. Nagai, R., et al. 1989. Identification of two types of smooth muscle Myosin heavy chain isoforms by cDNA cloning and immunoblot analysis. J. Biol. Chem. 264: 9734-9737.
2. Karsch-Mizrachi, I., et al. 1990. Generation of a full-length human perinatal Myosin heavy-chain-encoding cDNA. Gene 89: 289-294.
3. Bober, E., et al. 1990. Identification of three developmentally controlled isoforms of human Myosin heavy chains. Eur. J. Biochem. 189: 55-65.

CHROMOSOMAL LOCATION

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

SOURCE

MYH11 (I-5) is a mouse monoclonal antibody raised against crude smooth muscle extract from uterus myometrium 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.

MYH11 (I-5) is available conjugated to agarose (sc-65734 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-65734 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65734 PE), fluorescein (sc-65734 FITC), Alexa Fluor® 488 (sc-65734 AF488), Alexa Fluor® 546 (sc-65734 AF546), Alexa Fluor® 594 (sc-65734 AF594) or Alexa Fluor® 647 (sc-65734 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65734 AF680) or Alexa Fluor® 790 (sc-65734 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

STORAGE

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

APPLICATIONS

MYH11 (I-5) is recommended for detection of Myosin heavy chain 11 isoforms SM-1 and SM-2 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

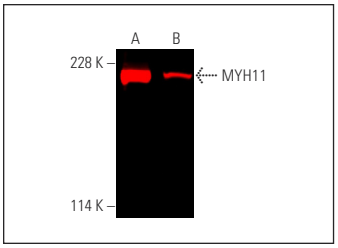
Molecular Weight of MYH11: 200 kDa.

Positive Controls: HISM cell lysate: sc-2229, human uterus extract: sc-363784 or human uterine fundus tissue extract.

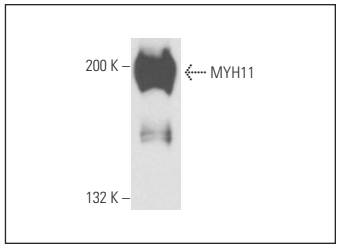
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MYH11 (I-5): sc-65734. Near-infrared western blot analysis of MYH11 expression in human uterus tissue extract (**A**) and HISM whole cell lysate (**B**). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



MYH11 (I-5): sc-65734. Western blot analysis of MYH11 expression in human uterine fundus tissue extract.

SELECT PRODUCT CITATIONS

1. Wang, X., et al. 2016. *In vivo* treatment of rat arterial adventitia with interleukin-1β induces intimal proliferation via the JAK2/Stat3 signaling pathway. Mol. Med. Rep. 13: 3451-3458.

RESEARCH USE

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