SANTA CRUZ BIOTECHNOLOGY, INC.

MYH (H-300): sc-20641

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.

REFERENCES

1. 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.
2. Karsch-Mizrachi, I., et al. 1990. Generation of a full-length human perinatal Myosin heavy chain encoding cDNA. Gene 89: 289-294.

SOURCE

MYH (H-300) is a rabbit polyclonal antibody raised against amino acids 1641-1940 of myosin heavy chain 3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MYH (H-300) is available conjugated to agarose (sc-20641 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP.

APPLICATIONS

MYH (H-300) is recommended for detection of skeletal and cardiac myosin heavy chain 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MYH (H-300) is also recommended for detection of skeletal and cardiac myosin heavy chain in additional species, including equine, canine, bovine and porcine.

Molecular Weight of MYH: 200 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, A-10 cell lysate: sc-3806 or rat skeletal muscle extract: sc-364810.

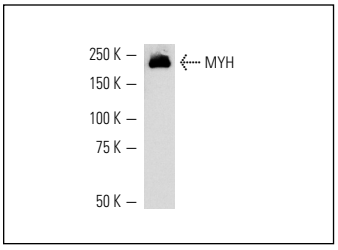
RESEARCH USE

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

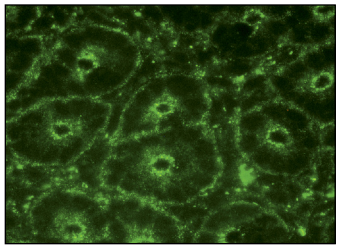
STORAGE

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

DATA



MYH (H-300): sc-20641. Western blot analysis of MYH expression in rat skeletal muscle tissue extract.



MYH (H-300): sc-20641. Immunofluorescence staining of normal mouse intestine frozen section showing membrane staining.

SELECT PRODUCT CITATIONS

1. Takeuchi, T., et al. 2006. A ubiquitin ligase, skeletrophin, is a negative regulator of melanoma invasion. Oncogene 25: 7059-7069.
2. Salmon, M. and Zehner, Z.E. 2009. The transcriptional repressor ZBP-89 and the lack of Sp1/Sp3, c-Jun and Stat3 are important for the down-regulation of the vimentin gene during C2C12 myogenesis. Differentiation 77: 492-504.
3. Yang, R., et al. 2010. Clones of ectopic stem cells in the regeneration of muscle defects *in vivo*. PLoS ONE 5: e13547.
4. Henningsen, J., et al. 2010. Dynamics of the skeletal muscle secretome during myoblast differentiation. Mol. Cell. Proteomics 9: 2482-2496.
5. Eltit, J.M., et al. 2010. RyR1-mediated Ca^{2+} leak and Ca^{2+} entry determine resting intracellular Ca^{2+} in skeletal myotubes. J. Biol. Chem. 285: 13781-13787.
6. Nguyen, T.H., et al. 2010. Maged1, a new regulator of skeletal myogenic differentiation and muscle regeneration. BMC Cell Biol. 11: 57.
7. Wieteska-Skrzeczynska, W., et al. 2011. Growth factor and cytokine interactions in myogenesis. Part I. The effect of TNF-α and IFN-γ on IGF-I-dependent differentiation in mouse C2C12 myogenic cells. Pol. J. Vet. Sci. 14: 417-424.
8. Takács, A.C., et al. 2012. Interferon-γ restricts toxoplasma gondii development in murine skeletal muscle cells via nitric oxide production and immunity-related GTPases. PLoS ONE 7: e45440.