

MYH10 (F-11): sc-376989

BACKGROUND

Actin is a highly conserved protein that is expressed in all eukaryotic cells. Actin filaments can form both stable and labile structures and are crucial components of microvilli and the contractile apparatus of muscle cells. Myosin is a hexamer of two heavy chains (abbreviated as MYH or MHC) and four light chains (MLC) that interacts with Actin to generate the force for diverse cellular movements, including cytokinesis, phagocytosis and muscle contraction. MYH10 is also designated Myosin IIb, Myosin-10, NMMHC-IIb, nonmuscle myosin heavy chain IIb or cellular myosin heavy chain, type B. MYH10 is involved in cell shape, cytokinesis and specialized functions such as capping and secretion. It is expressed in leukocytes and in glomeruli in the kidney.

REFERENCES

1. Simons, M., et al. 1991. Human nonmuscle myosin heavy chains are encoded by two genes located on different chromosomes. *Circ. Res.* 69: 530-539.
2. Aikawa, M., et al. 1993. Human smooth muscle myosin heavy chain isoforms as molecular markers for vascular development and atherosclerosis. *Circ. Res.* 73: 1000-1012.
3. Phillips, C.L., et al. 1995. Cloning of the cDNA encoding human nonmuscle myosin heavy chain B and analysis of human tissues with isoform-specific antibodies. *J. Muscle Res. Cell Motil.* 16: 379-389.
4. Ramamurthy, B., et al. 2004. Kinetic mechanism of blebbistatin inhibition of nonmuscle myosin IIb. *Biochemistry* 43: 14832-14839.
5. Meshel, A.S., et al. 2005. Basic mechanism of three-dimensional collagen fibre transport by fibroblasts. *Nat. Cell Biol.* 7: 157-164.
6. Nakasawa, T., et al. 2005. Critical regions for assembly of vertebrate nonmuscle myosin II. *Biochemistry* 44: 174-183.

CHROMOSOMAL LOCATION

Genetic locus: MYH10 (human) mapping to 17p13.1; Myh10 (mouse) mapping to 11 B3.

SOURCE

MYH10 (F-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-27 at the N-terminus of myosin heavy chain 10 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376989 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

MYH10 (F-11) is recommended for detection of myosin heavy chain 10 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).

MYH10 (F-11) is also recommended for detection of myosin heavy chain 10 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for MYH10 siRNA (h): sc-61122, MYH10 siRNA (m): sc-61123, MYH10 shRNA Plasmid (h): sc-61122-SH, MYH10 shRNA Plasmid (m): sc-61123-SH, MYH10 shRNA (h) Lentiviral Particles: sc-61122-V and MYH10 shRNA (m) Lentiviral Particles: sc-61123-V.

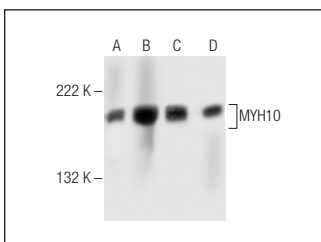
Molecular Weight of MYH10: 200 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, IMR-32 cell lysate: sc-2409 or mouse brain extract: sc-2253.

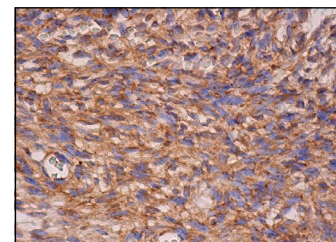
RECOMMENDED SUPPORT REAGENTS

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



MYH10 (F-11): sc-376989. Western blot analysis of MYH10 expression in SK-N-SH (A) and IMR-32 (B) whole cell lysates and mouse brain (C) and rat brain (D) tissue extracts.



MYH10 (F-11): sc-376989. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic staining of ovarian stroma cells.

RESEARCH USE

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