SANTA CRUZ BIOTECHNOLOGY, INC.

MYH10 (A-5): sc-376954

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 leukoctyes and in glomeruli in the kidney.

CHROMOSOMAL LOCATION

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

SOURCE

MYH10 (A-5) 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_{2a} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376954 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 (A-5) 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 (A-5) 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.

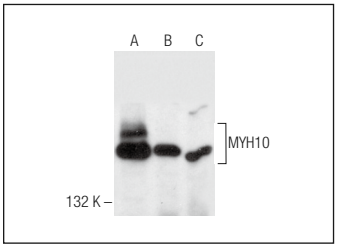
Molecular Weight of MYH10: 200 kDa.

Positive Controls: mouse brain extract: sc-2253, rat brain extract: sc-2392 or IMR-32 cell lysate: sc-2409.

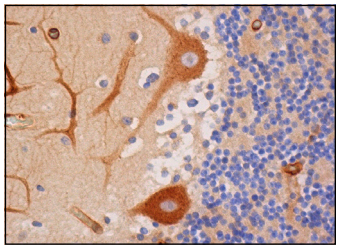
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGλ BP-HRP: sc-516132 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MYH10 (A-5): sc-376954. Western blot analysis of MYH10 expression in IMR-32 whole cell lysate (**A**) and mouse brain (**B**) and rat brain (**C**) tissue extracts.



MYH10 (A-5): sc-376954. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of perkinje cells and neurofilaments.

SELECT PRODUCT CITATIONS

1. Feng, J., et al. 2016. Depletion of kinesin-12, a myosin-IIB-interacting protein, promotes migration of cortical astrocytes. J. Cell Sci. 129: 2438-2447.
2. Stefani, C., et al. 2017. Ezrin enhances line tension along transcellular tunnel edges via NMIIa driven actomyosin cable formation. Nat. Commun. 8: 15839.
3. Wang, T., et al. 2020. Radial contractility of actomyosin rings facilitates axonal trafficking and structural stability. J. Cell Biol. 219: e201902001.
4. Mercaldo, V., et al. 2023. Altered striatal actin dynamics drives behavioral inflexibility in a mouse model of fragile X syndrome. Neuron 111: 1760-1775.e8.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.