

Myosin Ib (N-15): sc-32699

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. Troponin facilitates interaction between actin and myosin by binding to Ca^{2+} . Troponin is made up of at least two subunits, which are divergent in cardiac muscle, fast skeletal muscle and slow skeletal muscle. Myosin is a hexamer of two heavy chains (MHC) and four light chains (MLC) that interacts with actin to generate the force for diverse cellular movements, including cytokinesis, phagocytosis and muscle contraction. Myosin Ib (MYO1B), also designated Myosin Ia or MYH-1c, is a motor protein that is involved in cell migration, neurite outgrowth and vesicular transport. In multivesicular endosomes, Myosin Ib has been implicated in protein cargo traffic control.

REFERENCES

1. Marion, S., et al. 2005. Signalization and cytoskeleton activity through Myosin Ib during the early steps of phagocytosis in *Entamoeba histolytica*: a proteomic approach. *Cell. Microbiol.* 7: 1504-1518.
2. Salas-Cortes, L., et al. 2005. Myosin Ib modulates the morphology and the protein transport within multi-vesicular sorting endosomes. *J. Cell Sci.* 118: 4823-4832.
3. de Lanerolle, P., et al. 2005. Actin and myosin I in the nucleus: what next? *Nat. Struct. Mol. Biol.* 12: 742-746.
4. Takeda, T., et al. 2005. Role of fission yeast myosin I in organization of sterol-rich membrane domains. *Curr. Biol.* 15: 1331-1336.
5. Clark, R., et al. 2005. Loop 1 of transducer region in mammalian class I myosin, Myosin Ib, modulates actin affinity, ATPase activity, and nucleotide access. *J. Biol. Chem.* 280: 30935-30942.
6. SWISS-PROT/TrEMBL (O43795). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: MYO1B (human) mapping to 2q32.3; Myo1b (mouse) mapping to 1 C1.1.

SOURCE

Myosin Ib (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Myosin Ib 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.

Blocking peptide available for competition studies, sc-32699 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Myosin Ib (N-15) is recommended for detection of Myosin Ib of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Myosin Ib (N-15) is also recommended for detection of Myosin Ib in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Myosin Ib siRNA (h): sc-44600, Myosin Ib siRNA (m): sc-44601, Myosin Ib shRNA Plasmid (h): sc-44600-SH, Myosin Ib shRNA Plasmid (m): sc-44601-SH, Myosin Ib shRNA (h) Lentiviral Particles: sc-44600-V and Myosin Ib shRNA (m) Lentiviral Particles: sc-44601-V.

Molecular Weight of Myosin Ib: 132 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Chen, Y.F., et al. 2009. Motor protein-dependent membrane trafficking of KCl cotransporter-4 is important for cancer cell invasion. *Cancer Res.* 69: 8585-8593.

RESEARCH USE

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

PROTOCOLS

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



Try **Myosin Ib (F-8): sc-393053**, our highly recommended monoclonal alternative to Myosin Ib (N-15).