SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin Ie (7A5): sc-293354

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. 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 Ie (MYO1E) is also designated Myosin Ic. Myosin Ie contains 1,109 amino acids.

REFERENCES

1. Whitmer, J.D., et al. 1996. Chromosomal location of three unconventional Myosin heavy chain genes in the mouse. Genomics 38: 235-237.
2. Dumont, R.A., et al. 2002. Myosin-I isozymes in neonatal rodent auditory and vestibular epithelia. J. Assoc. Res. Otolaryngol. 3: 375-389.
3. El Mezgueldi, M., et al. 2002. The kinetic mechanism of Myo1e (human Myosin-IC). J. Biol. Chem. 277: 21514-21521.
4. Lindvall, J.M., et al. 2005. Differential expression and molecular characterisation of Lmo7, Myo1e, Sash1, and Mcoln2 genes in Btk-defective B-cells. Cell. Immunol. 235: 46-55.
5. SWISS-PROT/TrEMBL (Q12965). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: MYO1E (human) mapping to 15q22.2.

SOURCE

Myosin Ie (7A5) is a mouse monoclonal antibody raised against amino acids 918-1014 of Myosin Ie of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Myosin Ie (7A5) is recommended for detection of Myosin Ie of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Myosin Ie siRNA (h): sc-44613, Myosin Ie shRNA Plasmid (h): sc-44613-SH and Myosin Ie shRNA (h) Lentiviral Particles: sc-44613-V.

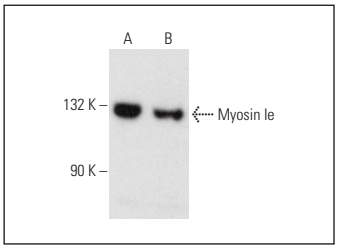
Molecular Weight of Myosin Ie: 127 kDa.

Positive Control: Myosin Ie transfected 293T whole cell lysate, HeLa whole cell lysate: sc-2200 or Caki-1 cell lysate: sc-2224.

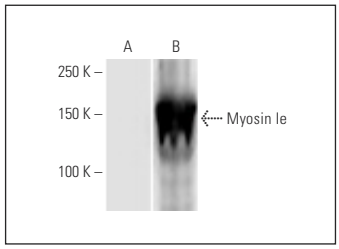
RECOMMENDED SUPPORT REAGENTS

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).

DATA



Myosin Ie (7A5): sc-293354. Western blot analysis of Myosin Ie expression in HeLa (**A**) and Caki-1 (**B**) tissue extracts.



Myosin Ie (7A5): sc-293354. Western blot analysis of Myosin Ie expression in non-transfected (**A**) and Myosin Ie transfected (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Feng, X., et al. 2022. Myosin 1D and the branched actin network control the condensation of p62 bodies. Cell Res. 32: 659-669.
2. Zhao, G., et al. 2023. A tubule-sheet continuum model for the mechanism of nuclear envelope assembly. Dev. Cell 58: 847-865.e10.

STORAGE

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

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.