SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin Ia (C-12): sc-32698

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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 Ia (MYO1A) is also designated Brush border myosin I or myosin I heavy chain. MYO1A, the gene encoding for the Myosin Ia protein, localizes to chromosome 12q13.3. Mutations in the MYO1A gene may cause autosomal dominant nonsyndromic sensorineural deafness (DFNA).

REFERENCES

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2. Li, W., Wang, J., Coluccio, L.M., Matsudaira, P. and Grand, R.J. 2000. Brush border myosin I (BBMI): a basally localized transcript in human jejunal enterocytes. J. Histochem. Cytochem. 48: 89-94.
3. Hawkins, C.J., Silke, J., Verhagen, A.M., Foster, R., Ekert, P.G. and Ashley, D.M. 2001. Analysis of candidate antagonists of IAP-mediated caspase inhibition using yeast reconstituted with the mammalian Apaf-1-activated apoptosis mechanism. Apoptosis 6: 331-338.
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5. SWISS-PROT/TrEMBL (Q9UBC5). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html
6. http://harvester.embl.de/harvester/Q9UB/Q9UBC5.htm

CHROMOSOMAL LOCATION

Genetic locus: MYO1A (human) mapping to 12q13.3; Myo1a (mouse) mapping to 10 D3.

SOURCE

Myosin Ia (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Myosin Ia 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-32698 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Myosin Ia (C-12) is recommended for detection of Myosin Ia 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).

Suitable for use as control antibody for Myosin Ia siRNA (h): sc-44596, Myosin Ia siRNA (m): sc-44597, Myosin Ia shRNA Plasmid (h): sc-44596-SH, Myosin Ia shRNA Plasmid (m): sc-44597-SH, Myosin Ia shRNA (h) Lentiviral Particles: sc-44596-V and Myosin Ia shRNA (m) Lentiviral Particles: sc-44597-V.

Molecular Weight of Myosin Ia: 110 kDa.

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. Gao, N. and Kaestner, K.H. 2010. Cdx2 regulates endo-lysosomal function and epithelial cell polarity. Genes Dev. 24: 1295-1305.

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 or our catalog for detailed protocols and support products.