SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin Id (H-1): sc-515292

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 Id (MYO1D) binds to calmodulin. It is expressed in most tissues, but is primarily found in brain, followed by lung and ovary.

REFERENCES

1. Lee, S.F. and Côté, G.P. 1995. Purification and characterization of a *Dictyostelium* protein kinase required for Actin activation of the Mg^{2+} ATPase activity of *Dictyostelium* Myosin Id. J. Biol. Chem. 270: 11776-11782.
2. Hasson, T., et al. 1996. Mapping of unconventional myosins in mouse and human. Genomics 36: 431-439.
3. Dumont, R.A., et al. 2002. Myosin-I isozymes in neonatal rodent auditory and vestibular epithelia. J. Assoc. Res. Otolaryngol. 3: 375-389.
4. Kohler, D., et al. 2003. Different degrees of lever arm rotation control myosin step size. J. Cell Biol. 161: 237-241.

CHROMOSOMAL LOCATION

Genetic locus: MYO1D (human) mapping to 17q11.2; Myo1d (mouse) mapping to 11 B5.

SOURCE

Myosin Id (H-1) is a mouse monoclonal antibody raised against amino acids 947-1006 mapping at the C-terminus of Myosin Id of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Myosin Id (H-1) is available conjugated to agarose (sc-515292 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515292 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515292 PE), fluorescein (sc-515292 FITC), Alexa Fluor® 488 (sc-515292 AF488), Alexa Fluor® 546 (sc-515292 AF546), Alexa Fluor® 594 (sc-515292 AF594) or Alexa Fluor® 647 (sc-515292 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515292 AF680) or Alexa Fluor® 790 (sc-515292 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

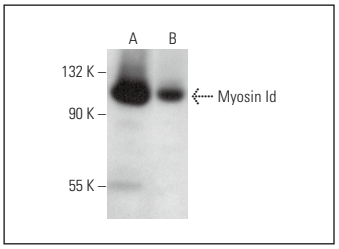
Myosin Id (H-1) is recommended for detection of Myosin Id of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Myosin Id siRNA (h): sc-44608, Myosin Id siRNA (m): sc-44609, Myosin Id shRNA Plasmid (h): sc-44608-SH, Myosin Id shRNA Plasmid (m): sc-44609-SH, Myosin Id shRNA (h) Lentiviral Particles: sc-44608-V and Myosin Id shRNA (m) Lentiviral Particles: sc-44609-V.

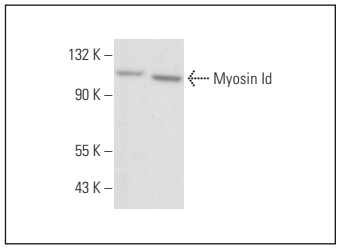
Molecular Weight of Myosin Id: 116 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, A-10 cell lysate: sc-3806 or Hep G2 cell lysate: sc-2227.

DATA



Myosin Id (H-1): sc-515292. Western blot analysis of Myosin Id expression in Caco-2 (**A**) and Hep G2 (**B**) whole cell lysates.



Myosin Id (H-1): sc-515292. Western blot analysis of Myosin Id expression in Hep G2 (**A**) and A-10 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ishibashi, O., et al. 2022. The role of miR-217-5p in the puromycin aminonucleoside-induced morphological change of podocytes. Noncoding RNA 8: 43.
2. Zhao, G., et al. 2023. A tubule-sheet continuum model for the mechanism of nuclear envelope assembly. Dev. Cell 58: 847-865.e10.
3. Campaña, M.B., et al. 2023. PDGFRα/β heterodimer activation negatively affects downstream ERK1/2 signaling and cellular proliferation. bioRxiv. E-published.

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.