SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin Id (K-18): sc-32706

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 Cote, 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.
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3. Dumont, R.A., Zhao, Y.D., Holt, J.R., Bahler, M. and Gillespie, P.G. 2002. Myosin I isozymes in neonatal rodent auditory and vestibular epithelia. J. Assoc. Res. Otolaryngol. 3: 375-389.
4. Kohler, D., Ruff, C., Meyhofer, E. and Bahler, M. 2003. Different degrees of lever arm rotation control myosin step size. J. Cell Biol. 161: 237-241.
5. Kohler, D., Struchholz, S. and Bahler, M. 2005. The two IQ-motifs and Ca^{2+}/calmodulin regulate the rat Myosin Id ATPase activity. FEBS J. 272: 2189-2197.

CHROMOSOMAL LOCATION

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

SOURCE

Myosin Id (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Myosin Id 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-32706 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Myosin Id (K-18) is recommended for detection of Myosin Id 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 Id (K-18) is also recommended for detection of Myosin Id in additional species, including equine, canine, bovine and porcine.

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: Hep G2 cell lysate: sc-2227.

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.

STORAGE

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

PROTOCOLS

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