SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin (5F114): sc-71630

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 4 light chains (MLC) and 2 heavy chains (MHC), each MHC are approximately 2000 amino acids in length, containing an N-terminal domain and a C-terminal domain which takes on a coiled-coil morphology. Myosin forms bipolar filaments that interact with actin filaments to generate the force for diverse cellular movements, including cytokinesis, phagocytosis and muscle contraction. This contraction is accompanied by ATP hydrolysis. There are many classes of myosins in vertebrates, including nonmuscle and unconventional Myosin classes.

REFERENCES

1. Bárány, M. 1967. ATPase activity of Myosin correlated with speed of muscle shortening. J. Gen. Physiol. 50: 197-218.
2. Billeter, R., Weber, H., Lutz, H., Howald, H., Eppenberger, H.M. and Jenny, E. 1980. Myosin types in human skeletal muscle fibers. Histochemistry 65: 249-259.
3. Whalen, R.G., Schwartz, K., Bouveret, P., Sell, S.M. and Gros, F. 1980. Contractile protein isozymes in muscle development: identification of an embryonic form of Myosin heavy chain. Proc. Natl. Acad. Sci. USA 76: 5197-5201.
4. Barton, P.J. and Buckingham, M.E. 1985. The Myosin alkali light chain proteins and their genes. Biochem. J. 231: 249-261.
5. Warrick, H.M. and Spudich, J.A. 1988. Myosin structure and function in cell motility. Annu. Rev. Cell Biol. 3: 379-421.
6. Hodge, T. and Cope, M.J. 2000. A Myosin family tree. J. Cell. Sci. 19: 3353-3354.

SOURCE

Myosin (5F114) is a mouse monoclonal antibody raised against skeletal muscle cell preparation of chicken origin.

PRODUCT

Each vial contains 500 µl culture supernatant containing IgM with < 0.1% sodium azide.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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

APPLICATIONS

Myosin (5F114) is recommended for detection of Myosin of chicken origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

Molecular Weight of Myosin: 20 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

PROTOCOLS

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