SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin If (M-41): sc-66986

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, includ ing cytokinesis, phagocytosis and muscle contraction. Myosin If (MYO1F), also designated Myosin-IE, is considered an unconventional Myosin and is expressed in the cochlea. The MYO1F gene encoding for the 1,098 amino acid protein maps to chromosome 19p13.2.

REFERENCES

1. Bárány, M. 1967. ATPase activity of myosin correlated with speed of muscle shortening. J. Gen. Physiol. 50: 197-218.
2. Billeter, R., et al. 1980. Myosin types in human skeletal muscle fibers. Histochemistry 65: 249-259.
3. Whalen, R.G., et al. 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., et al. 1985. The myosin alkali light chain proteins and their genes. Biochem. J. 231: 249-261.
5. Warrick, H.M., et al. 1988. Myosin structure and function in cell motility. Annu. Rev. Cell Biol. 3: 379-421.
6. Hodge, T., et al. 2000. A myosin family tree. J. Cell Sci. 113: 3353-3354.
7. Crozet, F., et al. 1997. Cloning of the genes encoding two murine and human cochlear unconventional type I myosins. Genomics 40: 332-341.
8. Krugmann, S., et al. 2002. Identification of ARAP3, a novel PI3K effector regulating both Arf and Rho GTPases, by selective capture on phosphoinositide affinity matrices. Mol. Cell 9: 95-108.

CHROMOSOMAL LOCATION

Genetic locus: MYO1F (human) mapping to 19p13.2; Myo1f (mouse) mapping to 17 B1.

SOURCE

Myosin If (M-41) is a rabbit polyclonal antibody raised against amino acids 1019-1059 mapping near the C-terminus of Myosin If of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Myosin If (M-41) is recommended for detection of Myosin If of mouse, rat and, to a lesser extent, 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)], 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 If (M-41) is also recommended for detection of Myosin If in additional species, including equine, canine, bovine and porcine.

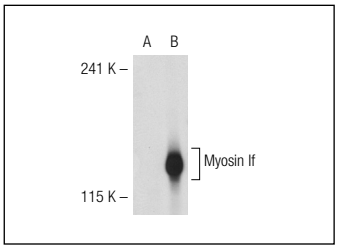
Suitable for use as control antibody for Myosin If siRNA (h): sc-44617, Myosin If siRNA (m): sc-44618, Myosin If shRNA Plasmid (h): sc-44617-SH, Myosin If shRNA Plasmid (m): sc-44618-SH, Myosin If shRNA (h) Lentiviral Particles: sc-44617-V and Myosin If shRNA (m) Lentiviral Particles: sc-44618-V.

Molecular Weight of Myosin If: 125 kDa.

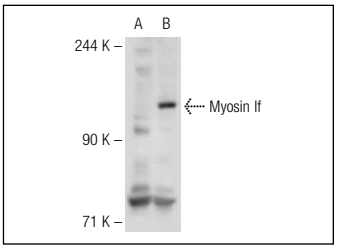
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Myosin If (M-41): sc-66986. Western blot analysis of Myosin If expression in non-transfected: sc-117752 (**A**) and human Myosin If transfected: sc-114687 (**B**) 293T whole cell lysates.



Myosin If (M-41): sc-66986. Western blot analysis of Myosin If expression in non-transfected: sc-117752 (**A**) and human Myosin If transfected: sc-171046 (**B**) 293T whole cell lysates.

RESEARCH USE

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