

# Myosin If (N-14): sc-32711

## 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 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. Crozet, F., el Amraoui, A., Blanchard, S., Lenoir, M., Ripoll, C., Vago, P., Hamel, C., Fizames, C., Levi-Acobas, F., Depetris, D., Mattei, M.G., Weil, D., Pujol, R. and Petit, C. 1997. Cloning of the genes encoding two murine and human cochlear unconventional type I Myosins. *Genomics* 40: 332-341.
2. Krugmann, S. Anderson, K.E., Ridley, S.H., Risso, N., McGregor, A., Coadwell, J., Davidson, K., Eguinoa, A., Ellson, C.D., Lipp, P., Manifava, M., Ktistakis, N., Painter, G., Thuring, J.W., Cooper, M.A., Lim, Z.Y., Holmes, A.B., Dove, S.K., 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.
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. SWISS-PROT/TrEMBL (O00160). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

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

## SOURCE

Myosin If (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Myosin If of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32711 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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 (N-14) is recommended for detection of Myosin If 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 If (N-14) is also recommended for detection of Myosin If in additional species, including equine, canine 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.

Positive Controls: A-673 cell lysate: sc-2414.

## 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Myosin If (B-5): sc-376534**, our highly recommended monoclonal alternative to Myosin If (N-14).