

# Myosin If (B-5): sc-376534

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Myosin If (B-5) is a mouse monoclonal antibody raised against amino acids 1019-1059 mapping near the C-terminus of Myosin If of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Myosin If (B-5) is available conjugated to agarose (sc-376534 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376534 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376534 PE), fluorescein (sc-376534 FITC), Alexa Fluor® 488 (sc-376534 AF488), Alexa Fluor® 546 (sc-376534 AF546), Alexa Fluor® 594 (sc-376534 AF594) or Alexa Fluor® 647 (sc-376534 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376534 AF680) or Alexa Fluor® 790 (sc-376534 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Myosin If (B-5) is recommended for detection of Myosin If of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 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.

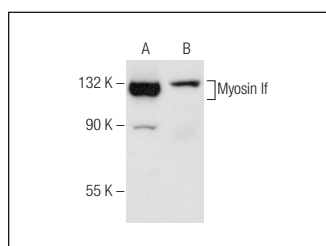
Molecular Weight of Myosin If: 125 kDa.

Positive Controls: mouse PBL whole cell lysate, THP-1 cell lysate: sc-2238 or HL-60 whole cell lysate: sc-2209.

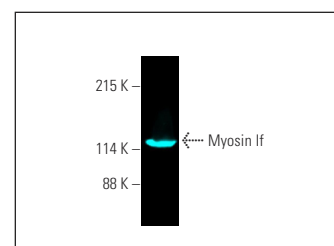
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Myosin If (B-5): sc-376534. Western blot analysis of Myosin If expression in HL-60 (A) and mouse PBL (B) whole cell lysates.



Myosin If (B-5) Alexa Fluor® 647: sc-376534 AF647. Direct fluorescent western blot analysis of Myosin If expression in THP-1 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.

## SELECT PRODUCT CITATIONS

- Barger, S.R., et al. 2019. Membrane-cytoskeletal crosstalk mediated by Myosin-I regulates adhesion turnover during phagocytosis. *Nat. Commun.* 10: 1249.
- Wang, Y., et al. 2021. Myosin 1f-mediated activation of microglia contributes to the photoreceptor degeneration in a mouse model of retinal detachment. *Cell Death Dis.* 12: 926.
- Hensel, A., et al. 2022. The Taspase1/Myosin1f-axis regulates filopodia dynamics. *iScience* 25: 104355.
- Feng, X., et al. 2022. Myosin 1D and the branched Actin network control the condensation of p62 bodies. *Cell Res.* 32: 659-669.
- Morrish, E., et al. 2022. The fusion oncogene VAV1-MYO1F triggers aberrant T-cell receptor signalling *in vivo* and drives peripheral T-cell lymphoma in mice. *Eur. J. Immunol.* E-published.

## STORAGE

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

## 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) for detailed protocols and support products.