SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin Ic (13): sc-136544

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 Ic (Myo1C) is also designated Myosin I β. In vestibular hair cells, Myosin Ic may be important for fast adaptation.

REFERENCES

1. Bose, A., et al. 2004. Unconventional myosin Myo1c promotes membrane fusion in a regulated exocytic pathway. Mol. Cell. Biol. 24: 5447-5458.
2. Batters, C., et al. 2004. Myosin Ic is designed for the adaptation response in the inner ear. EMBO J. 23: 1433-1440.

CHROMOSOMAL LOCATION

Genetic locus: MYO1C (human) mapping to 17p13.3; Myo1c (mouse) mapping to 11 B5.

SOURCE

Myosin Ic (13) is a mouse monoclonal antibody raised against amino acids 239-360 and 859-971 of Myosin Ic of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Myosin Ic (13) is available conjugated to agarose (sc-136544 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136544 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

Myosin Ic (13) is recommended for detection of Myosin Ic of mouse, rat, human and canine 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Myosin Ic siRNA (h): sc-44604, Myosin Ic siRNA (m): sc-44605, Myosin Ic shRNA Plasmid (h): sc-44604-SH, Myosin Ic shRNA Plasmid (m): sc-44605-SH, Myosin Ic shRNA (h) Lentiviral Particles: sc-44604-V and Myosin Ic shRNA (m) Lentiviral Particles: sc-44605-V.

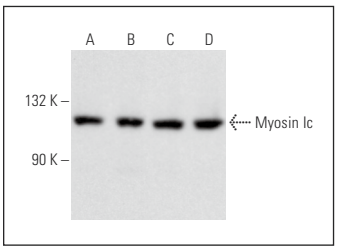
Molecular Weight of Myosin Ic: 118 kDa.

Positive Controls: MDA-MB-435S whole cell lysate: sc-364184, A-431 whole cell lysate: sc-2201 or MDA-MB-231 cell lysate: sc-2232.

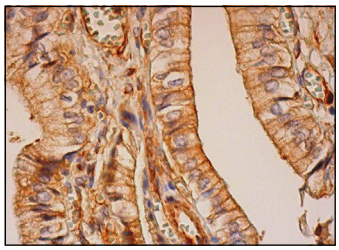
STORAGE

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

DATA



Myosin Ic (13): sc-136544. Western blot analysis of Myosin Ic expression in MDA-MB-435S (**A**), A-431 (**B**), MDA-MB-231 (**C**) and OVCAR-3 (**D**) whole cell lysates.



Myosin Ic (13): sc-136544. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Kannan, N. and Tang, V.W. 2018. Myosin-1c promotes E-cadherin tension and force-dependent recruitment of α-actinin to the epithelial cell junction. J. Cell Sci. 131: jcs211334.
2. Capmany, A., et al. 2019. MYO1C stabilizes actin and facilitates arrival of transport carriers at the Golgi apparatus. J. Cell Sci. 132: jcs225029.
3. Yamaguchi, T., et al. 2019. ROR1-CAVIN3 interaction required for caveolae-dependent endocytosis and pro-survival signaling in lung adenocarcinoma. Oncogene 38: 5142-5157.
4. Jiang, J., et al. 2020. Regorafenib induces lethal autophagy arrest by stabilizing PSAT1 in glioblastoma. Autophagy 16: 106-122.
5. Aslund, A., et al. 2021. Myosin 1c; a novel regulator of glucose uptake in brown adipocytes. Mol. Metab. 53: 101247.
6. Mangon, A., et al. 2021. iASPP contributes to cell cortex rigidity, mitotic cell rounding, and spindle positioning. J. Cell Biol. 220: e202012002.
7. Feng, X., et al. 2022. Myosin 1D and the branched actin network control the condensation of p62 bodies. Cell Res. 32: 659-669.
8. Zhao, G., et al. 2023. A tubule-sheet continuum model for the mechanism of nuclear envelope assembly. Dev. Cell 58: 847-865.e10.
9. Suo, J., et al. 2024. RAB31 in glioma-derived endothelial cells promotes glioma cell invasion via extracellular vesicle-mediated enrichment of MYO1C. FEBS Open Bio 14: 138-147.

RESEARCH USE

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

PROTOCOLS

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