

# Myosin X (C-1): sc-166720

## BACKGROUND

Myosins are molecular motors that move along filamentous Actin and influence cellular movements such as phagocytosis. There are seven classes of myosins in vertebrates, including Myosin II and six unconventional Myosin classes: I, V, VI, VII, IX and X. Myosin X (Myo10 or M10) contains three IQ motifs, a myosin tail homology 4 (MyTH4) domain, a FERM (band 4.1/Ezrin/Radixin/Moesin) domain, three Pleckstrin homology domains (which mediate phosphatidylinositol phospholipid signaling) and three PEST sites (which may allow cleavage of the Myosin tail). Myosin X binds F-Actin in an ATP-sensitive manner and can influence normal phagocytosis through PI-3 kinase-dependent pathways. Myosin X in cultured cells localizes to the edges of lamellipodia, membrane ruffles and the tips of filopodial Actin bundles. The human Myosin X gene maps to chromosome 5p15.1 and encodes a 2,058 amino acid protein.

## CHROMOSOMAL LOCATION

Genetic locus: MYO10 (human) mapping to 5p15.1; Myo10 (mouse) mapping to 15 B1.

## SOURCE

Myosin X (C-1) is a mouse monoclonal antibody raised against amino acids 1759-2058 mapping at the C-terminus of Myosin X of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Myosin X (C-1) is available conjugated to agarose (sc-166720 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166720 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166720 PE), fluorescein (sc-166720 FITC), Alexa Fluor® 488 (sc-166720 AF488), Alexa Fluor® 546 (sc-166720 AF546), Alexa Fluor® 594 (sc-166720 AF594) or Alexa Fluor® 647 (sc-166720 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166720 AF680) or Alexa Fluor® 790 (sc-166720 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Myosin X (C-1) is recommended for detection of Myosin X of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 X siRNA (h): sc-43241, Myosin X siRNA (m): sc-43242, Myosin X shRNA Plasmid (h): sc-43241-SH, Myosin X shRNA Plasmid (m): sc-43242-SH, Myosin X shRNA (h) Lentiviral Particles: sc-43241-V and Myosin X shRNA (m) Lentiviral Particles: sc-43242-V.

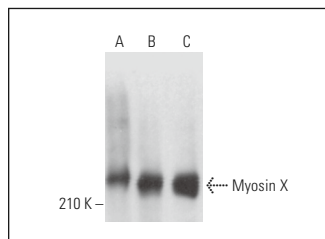
Molecular Weight of Myosin X: 240 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, PC-3 cell lysate: sc-2220 or L6 whole cell lysate: sc-364196.

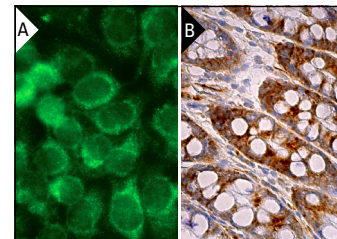
## STORAGE

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

## DATA



Myosin X (C-1): sc-166720. Western blot analysis of Myosin X expression in PC-3 (A), L6 (B) and KNRK (C) whole cell lysates.



Myosin X (C-1): sc-166720. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Chan, P.C., et al. 2014. Adducin-1 is essential for mitotic spindle assembly through its interaction with Myosin X. *J. Cell Biol.* 204: 19-28.
- Iwano, S., et al. 2015. PCTK1 regulates integrin-dependent spindle orientation via protein kinase A regulatory subunit KAP0 and Myosin X. *Mol. Cell. Biol.* 35: 1197-1208.
- Buccitelli, C., et al. 2017. Pan-cancer analysis distinguishes transcriptional changes of aneuploidy from proliferation. *Genome Res.* 27: 501-511.
- Bachg, A.C., et al. 2019. Phenotypic analysis of Myo10 knockout (Myo10tm2/tm2) mice lacking full-length (motorized) but not brain-specific headless myosin X. *Sci. Rep.* 9: 597.
- Mayca Pozo, F., et al. 2021. MYO10 drives genomic instability and inflammation in cancer. *Sci. Adv.* 7: eabg6908.
- Hammers, D.W., et al. 2021. Filopodia powered by class x myosin promote fusion of mammalian myoblasts. *Elife* 10: e72419.
- Routledge, D., et al. 2022. The scaffolding protein flot2 promotes cytoneme-based transport of Wnt3 in gastric cancer. *Elife* 11: e77376.
- Li, L.Y., et al. 2023. Brain blood vessel autoantibodies in patients with NMDA and GABA<sub>A</sub> receptor encephalitis: identification of unconventional Myosin X as target antigen. *Front. Cell. Neurosci.* 17: 1077204.
- Mayca Pozo, F., et al. 2023. MYO10 regulates genome stability and cancer inflammation through mediating mitosis. *Cell Rep.* 42: 112531.

## RESEARCH USE

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

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