SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin X (N-14): sc-23137

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. Hasson, T., et al. 1996. Mapping of unconventional myosins in mouse and human. Genomics 36: 431-439.
2. Berg, J.S., et al. 2000. Myosin-X, a novel Myosin with Pleckstrin homology domains, associates with regions of dynamic Actin. J. Cell Sci. 113: 3439-3451.
3. Homma, K., et al. 2001. Motor function and regulation of Myosin X. J. Biol. Chem. 276: 34348-34354.
4. Chavrier, P. 2002. May the force be with you: Myosin-X in phagocytosis. Nat. Cell Biol. 4: E169-E171.
5. Berg, J.S., et al. 2002. Myosin-X is an unconventional Myosin that undergoes intrafilopodial motility. Nat. Cell Biol. 4: 246-250.
6. Cox, D., et al. 2002. Myosin X is a downstream effector of PI(3)K during phagocytosis. Nat. Cell Biol. 4: 469-477.
7. LocusLink Report (LocusID: 4651). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

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

SOURCE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-23137 P, (100 µg 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 X (N-14) is recommended for detection of Myosin X of mouse, rat and 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 X (N-14) is also recommended for detection of Myosin X in additional species, including equine, canine, bovine and porcine.

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.

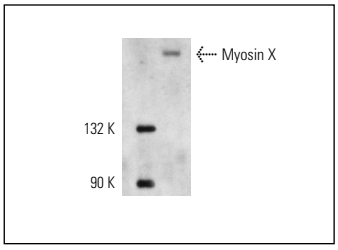
Molecular Weight of Myosin X: 240 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Myosin X (N-14): sc-23137. Western blot analysis of Myosin X expression in KNRK whole cell lysate.

SELECT PRODUCT CITATIONS

1. Clewes, O., et al. 2011. Human epidermal neural crest stem cells (hEPI-NCSC)—characterization and directed differentiation into osteocytes and melanocytes. Stem Cell Rev. 7: 799-814.

RESEARCH USE

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