

Myosin VI (A-9): sc-393558

BACKGROUND

Myosin VI (MYO6), a molecular motor involved in intracellular vesicle and organelle transport, is the only Myosin motor that binds to the pointed end of Actin. This unique Myosin has only one light chain in the lever-arm domain and has highly irregular stepping with a wide range of step sizes, unlike that of other characterized Myosins. It associates with Clathrin-coated vesicles and disabled 2, indicating a role for Myosin VI in endocytosis. Mouse Myosin VI is expressed within the sensory hair cells of the cochlea. Human Myosin VI is mapped to the centromeric region of chromosome 6, a region that shows syntenic homology with the corresponding mouse chromosome 9 region, where the Snell's Waltzer mutation is located. The behavioral effects of the mouse Snell's Waltzer mutation are lack of responsiveness to sound, hyperactivity, head tossing and circling, due to the disorganization and fusing of stereocilia bundles within the inner ear. Defects of Myosin VI cause autosomal dominant nonsyndromic sensori-neural deafness in humans. Human Myosin VI is expressed in fetal cochlea and brain, as well as in adult brain.

CHROMOSOMAL LOCATION

Genetic locus: MYO6 (human) mapping to 6q14.1; Myo6 (mouse) mapping to 9 E1.

SOURCE

Myosin VI (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1206-1237 near the C-terminus of Myosin VI of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393558 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Myosin VI (A-9) is recommended for detection of Myosin VI 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).

Myosin VI (A-9) is also recommended for detection of Myosin VI in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Myosin VI siRNA (h): sc-37133, Myosin VI siRNA (m): sc-37134, Myosin VI shRNA Plasmid (h): sc-37133-SH, Myosin VI shRNA Plasmid (m): sc-37134-SH, Myosin VI shRNA (h) Lentiviral Particles: sc-37133-V and Myosin VI shRNA (m) Lentiviral Particles: sc-37134-V.

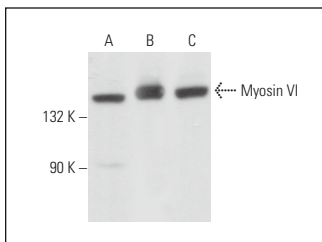
Molecular Weight of Myosin VI: 140 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MDA-MB-231 cell lysate: sc-2232 or SK-BR-3 cell lysate: sc-2218.

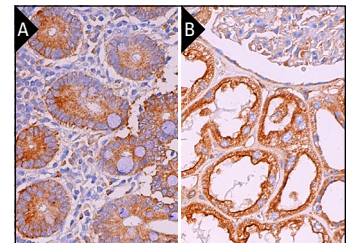
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Myosin VI (A-9): sc-393558. Western blot analysis of Myosin VI expression in MDA-MB-231 (A), SK-BR-3 (B) and A-431 (C) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Myosin VI (A-9): sc-393558. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and membrane staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and apical membrane staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

- Hu, S., et al. 2019. Structure of Myosin VI/Tom1 complex reveals a cargo recognition mode of Myosin VI for tethering. *Nat. Commun.* 10: 3459.
- Li, S., et al. 2020. Myosin-VIIa is expressed in multiple isoforms and essential for tensioning the hair cell mechanotransduction complex. *Nat. Commun.* 11: 2066.
- Park, J.H., et al. 2021. Disruption of nucleocytoplasmic trafficking as a cellular senescence driver. *Exp. Mol. Med.* 53: 1092-1108.
- Kelly, R.D., et al. 2023. Noncanonical functions of Ku may underlie essentiality in human cells. *Sci. Rep.* 13: 12162.
- Tan, L.X., et al. 2023. Optineurin tunes outside-in signaling to regulate lysosome biogenesis and phagocytic clearance in the retina. *Curr. Biol.* 33: 3805-3820.e7.

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.