SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin VI (G-6): sc-398609

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. Avraham, K.B., et al. 1997. Characterization of unconventional MYO6, the human homologue of the gene responsible for deafness in Snell's waltzer mice. Hum. Mol. Genet. 6: 1225-1231.
2. Wells, A.L., et al. 1999. Myosin VI is an Actin-based motor that moves backwards. Nature 401: 505-508.
3. Self, T., et al. 1999. Role of Myosin VI in the differentiation of cochlear hair cells. Dev. Biol. 214: 331-341.
4. Ahituv, N., et al. 2000. Genomic structure of the human unconventional Myosin VI gene. Gene 261: 269-275.
5. Rock, R.S., et al. 2001. Myosin VI is a processive motor with a large step size. Proc. Natl. Acad. Sci. USA 98: 13655-13659.
6. Melchionda, S., et al. 2001. MYO6, the human homologue of the gene responsible for deafness in Snell's waltzer mice, is mutated in autosomal dominant nonsyndromic hearing loss. Am. J. Hum. Genet. 69: 635-640.
7. Buss, F., et al. 2001. Myosin VI isoform localized to Clathrin-coated vesicles with a role in Clathrin-mediated endocytosis. EMBO J. 20: 3676-3684.
8. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600970. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
9. Morris, S.M., et al. 2002. Myosin VI binds to and localizes with Dab2, potentially linking receptor-mediated endocytosis and the Actin cyto-skeleton. Traffic 3: 331-341.

CHROMOSOMAL LOCATION

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

SOURCE

Myosin VI (G-6) is a mouse monoclonal antibody raised against amino acids 1071-1285 mapping at the C-terminus of Myosin VI 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.

APPLICATIONS

Myosin VI (G-6) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

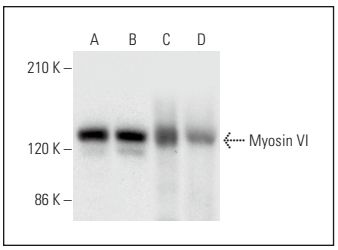
Molecular Weight of Myosin VI: 150 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, H4 cell lysate: sc-2408 or human liver extract: sc-363766.

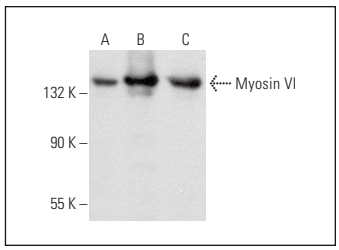
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Myosin VI (G-6): sc-398609. Western blot analysis of Myosin VI expression in DU 145 (**A**) and H4 (**B**) whole cell lysates and human liver (**C**) and rat liver (**D**) tissue extracts.



Myosin VI (G-6): sc-398609. Western blot analysis of Myosin VI expression in DU 145 (**A**), PC-3 (**B**) and SK-BR-3 (**C**) whole cell lysates.

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.