Product Information

Anti-Myosin VI Antibody, Mouse Monoclonal

Clone MUD-19, purified from hybridoma cell culture

M0691

Product Description

Anti-Myosin VI (mouse IgG1 isotype) is derived from the MUD-19 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from mice immunized with a synthetic peptide corresponding to a fragment of human myosin VI. The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO2).

Anti-Myosin VI recognizes human, rat, and mouse myosin VI. The product may be used in ELISA, immunoprecipitation, immunoblotting (~150 kDa), and immunohistochemistry.

Myosins belong to a superfamily of actin-based motor proteins comprising at least 15 or more classes. There are two main groups of myosins: the conventional (class II) and the unconventional myosins.[1] Myosin VI is a relatively abundant widespread unconventional myosin composed of an N-terminal motor domain, a light chain binding neck region, a coil-coiled region, and a highly conserved C-terminal domain. At the 'converter' region between the catalytic head and the neck region of myosin VI, there is a characteristic linker of ~50 amino acids.[1-3]

Native myosin VI is apparently a two-headed dimer of the heavy chains with each heavy chain bound to a calmodulin light chain. Myosin VI is a unique 'reverse' actin motor in vitro i.e., to display motility towards the pointed (minus) ends of actin filaments, a direction opposite to all other currently known myosins.[4] Myosin VI is involved in the generation of cell shape change, cell motility, membrane remodeling, and possibly in organelle and particle transport or tethering. It is also involved in membrane trafficking pathways in cultured mammalian cells where it is associated with the membrane ruffles and the trans-Golgi network.[3] The unusual direction of myosin VI movement may suggest that it brings materials or membranes into the cell. Its activity in tissue cultured cells is thought to be regulated by phosphorylation.[3]

Myosin VI plays an essential role in the development of the mouse inner ear where it is expressed in the hair cell body, in the actin-rich cuticular plate at the base of the stereocilia, and in the pericuticular necklace region.[2, 5] Myosin VI gene mutations are involved in deafness and balance defects in the Snell's Waltzer mouse.[6] These mice display defects in the organization of the stereocilia, their fusion, and subsequent hair cell loss.[6,7]

Reagent

Monoclonal Anti-Myosin VI is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

Antibody Concentration: ~1-1.5 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting

A minimum working concentration of 2 µg/mL is determined using A431 total cell extract.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Sellers, J.R., Biochem. Biophys. Acta, 1496, 3-22 (2000).
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4. Wells, A.L. et al., Nature, 401, 505-508 (1999).
5. Hasson, T., et al., J. Cell Biol., 13, 1287-1307 (1997).
6. Avraham, K.B., et al., Nat. Genet., 11, 369-375 (1995).
7. Self, T., et al., Dev. Biol., 214, 331-341 (1999).

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