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ProductInformation

ANTI-MYOSIN VI (KA-15)
Developed in Rabbit
Affinity Isolated Antibody

Product Number **M 5187**

Product Description

Anti-Myosin VI is developed in rabbits using a synthetic peptide corresponding to an epitope mapping within the carboxy-terminal part of human Myosin VI with N-terminal added cysteine, conjugated to maleimide activated keyhole limpet hemocyanin (KLH). The sequence is identical in mouse, pig, and striper rock fish. It differs by one amino acid from the respective chicken sequence. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Myosin VI specifically recognizes Myosin VI by immunoblotting (150 kDa). Staining of Myosin VI by immunoblotting is inhibited by the immunizing peptide. The product is useful for detection of Myosin VI by immunocytochemistry.

Myosins belong to a superfamily of actin-based motor proteins comprising to date, 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 coiled-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 about 50 amino acids long. [1-3]

Native Myosin VI is apparently a two-headed dimer of the heavy chains with each heavy chain bound to calmodulin light chain. Myosin VI was shown recently to be a unique 'reverse' actin motor *in vitro* (i.e. to display motility towards the pointed (minus) ends of actin filaments, the direction opposite to all other currently known myosins).[4] Myosin VI participates 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] A mutation in Myosin VI was described recently in human autosomal dominant nonsyndromic hearing loss.[8]

Reagent

Anti-Myosin VI is supplied as a 0.2 ml solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous 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 dilution samples should be discarded if not used within 12 hours.

Product Profile
A minimum working dilution of 1:1000 is determined by immunoblotting using a whole extract of dog MDCK kidney cells.

A minimum working dilution of 1:75 is determined by indirect immunofluorescent staining of rat NRK kidney cells.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

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