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Product Information

Anti-Myosin Va (LF-18)
produced in rabbit, affinity isolated antibody

Catalog Number **M4812**

Product Description

Anti-Myosin Va (LF-18) is produced in rabbit using a synthetic peptide corresponding to a region near the C-terminus of chicken myosin Va (amino acids 1782-1799 with N-terminally added lysine), conjugated to keyhole limpet hemocyanin (KLH) as immunogen. This sequence is specific for myosin Va and is identical in human, mouse, and rat myosin Va. Anti-Myosin Va (LF-18) is affinity-purified using the immunogen peptide immobilized on agarose.

Anti-Myosin Va (LF-18) recognizes myosin Va (190 kDa). Applications include immunoblotting and immunohistochemistry. Staining of myosin Va in immunoblotting is specifically inhibited with myosin Va immunizing peptide (chicken, amino acids 1782-1799 with N-terminally added lysine).

Myosin Va (p190) is a member of the unconventional class of myosins, distinct from both the myosins I and myosins II.[1-5] It is present in neuronal and non neuronal cells of the brain. Class V myosins are widely expressed actin-based motors that have been implicated in the transport and/or localization of a wide range of organelles as well as mRNA. Class V myosins have two motor head domains typical of myosins, and an extended regulatory neck domain with six tandem IQ domains that bind multiple calmodulin light chains. In addition, myosin V contains a unique 400 amino acids globular tail domain that may direct myosin V to its target or determine the cargo to which it binds.

Brain myosin Va exhibits an unusually high affinity for F-actin. In the presence of ATP, its Mg-ATPase activity is stimulated by physiological Ca^{2+} concentrations in a highly cooperative manner.[6] Based on biochemical properties, kinetic and optical measurements, it has been suggested that myosin Va is a processive, actin-based molecular motor.[7, 8] Myosin Va has been implicated in the regulation of vesicle trafficking in neurons and melanocytes.[9] It has been suggested that class V myosins associate with membrane vesicles through their C-terminal tails.[10, 11] Myosin V associates with synaptic vesicles and forms a stable complex with the synaptic vesicle membrane proteins, synaptobrevin II, and synaptophysin.[12, 13] The *dilute* Myo5a gene mutation in myosin Va leads to mental retardation, variable cellular immunodeficiency and impaired melanocyte function (pigmentary dilution), known as Griscelli syndrome in humans.[14, 15] Myosin Va regulates melanosome distribution along microfilaments. It is found in association with the centrosome at all stages of the cell cycle.[16] In the interphase stage, myosin Va is found in pericentriolar material. During cell division, it is found in the cytoplasm and concentrates in a trail between migrating centrioles and in the mitotic spindle poles and spindle fibers.[16, 17]

Reagent

Supplied as a 0.2 ml solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin (BSA) and 15 mM sodium azide.

Antibody concentration: ~0.4 mg/ml

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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, or storage in "frost-free" freezers, is 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

Immunoblotting: a minimum working dilution of 1:1,000 is determined using a rat brain extract.

Immunohistochemistry: a minimum working dilution of 1:200 is determined using formalin-fixed, paraffin-embedded sections of rat and chicken cerebellum.

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

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