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ProductInformation

Monoclonal Anti-Dynein (Intermediate Chain)
Mouse Ascites Fluid
Clone 1869A

Product No. **D6168**

Product Description

Monoclonal anti-Dynein (Intermediate Chain) (mouse IgG1 isotype) is derived from the 1869A hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with intermediate chain outer arm dynein of *Chlamydomonas reinhardtii*. The isotype is determined using Sigma ImmunoType Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2)..

Monoclonal anti-Dynein (Intermediate Chain), clone 1869A, recognizes the intermediate chain (IC69, 69 kDa) of *Chlamydomonas* dynein but does not recognize any other protein in the axoneme.[1,2] The product reacts strongly with the 76 kDa intermediate chain outer arm dynein of sea urchin (*Tripneustes gratilla*, *Strongylocentrotus purpuratus*) and with a single component (IC2, 73 kDa) of trout (*Salmo gairdneri*) outer arm dynein.[1,3] It does not recognize any component in axonemes prepared from scallop gill cilia or ram sperm, purified 14S and 22S dyneins from cilia of *Tetrahymena thermophila*, or chick brain extract.[1] The antibody may be used for domain mapping within IC69, electron microscope studies on dynein particles, and for protein-protein association studies within purified outer arm dynein and axonemes from *Chlamydomonas flagella*.[2,4,5]

Monoclonal Anti-Dynein (Intermediate Chain) is a homogenous population of antibody molecules which may be used for the localization of Dynein Intermediate Chain using various immunochemical assays.

Eukaryotic cells rely on actin and microtubule-based protein motors to generate intracellular movements.[6] These protein "motors" contain specialized domains that hydrolyse ATP to produce force and movement along a cytoskeletal polymer (actin in the case of myosin family and microtubules in the case of the kinesin family and dyneins). The minus-end-directed microtubule motor dynein ATPase is one of the most widely studied microtubule-associated energy transducing enzymes. It constitutes the outer and inner arms on the doublet tubules of sperm flagellar axonemes, where it generates the sliding between doublets that underlies flagellar beating. The outer arm from *Chlamydomonas flagella*, one of the most thoroughly characterized dyneins, contains 15 distinct polypeptides.[2] This dynein is composed of α, β, and γ subunits; the α and β subunits are isolated together as an α-β dimer, whereas the γ subunit dissociates from the other two during purification and is obtained separately. Each subunit consists of a single heavy chain (the α, β and γ chains; 480, 440 and 415 kDa, respectively) associated with one or more light chains (8-22 kDa). The β subunit also contains two intermediate chains of 78 and 69 kDa, termed IC78 and IC69.[2] The antibody producing hybridoma was developed by G.B. Witman and co-workers.[1] The monoclonal nature of the product guarantees the continued production of a constant titer Anti-Dynein (Intermediate Chain) antibody with the same specificity and chemical identity.

Reagents

The product is provided as ascites fluid with 0.1% sodium azide as preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety 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.

Product Profile

The minimum antibody titer of 1:10,000 was determined by immunoblotting using *Chlamydomonas flagella* preparation.

In order to obtain best results, it is recommended that each individual user determine the optimum working dilution for their system by titration assay.

Storage
For continuous use, store at 2-8 °C. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

References

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5. King, S., et al., J. Biol. Chem., **266**, 8401-8407 (1991).
6. Vallee, R., and Shpetner, H., Ann. Rev. Biochem., **59**, 909-932 (1990).

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