Product Information

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Monclonal Anti-Kinesin
Clone IBII
produced in mouse, ascites fluid

Catalog Number **K1005**

Description

Monoclonal Anti-Kinesin (mouse IgM isotype) is derived from the IBII hybridoma[1] produced by the fusion of mouse myeloma cells and splenocytes from immunized BALB/c mice. Bovine brain kinesin was used as the immunogen. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-Kinesin may be used for the localization of kinesin using immunoblotting or ELISA. The antibody recognizes kinesin in denatured and reduced tissue or cell preparations of the following species: rat (brain), bovine (microtubules or kinesin enriched brain), sea urchin eggs (microtubules). In kinesin-enriched rat brain preparations,[2,3] 2 bands are detected at 40-80 kDa, additional bands at 130-140 kDa may appear.

Mammalian nerve cells and many other eukaryotic cells contain at least two microtubule-dependent translocator proteins. These include kinesin, which moves particles along microtubules in an anterograde direction (from their minus to plus ends), and cytoplasmic dynein or MAP-1C, which promotes movement in the opposite (retrograde) direction.[4] Kinesin is a microtubule-activated, mechanochemical ATPase capable of moving particles along microtubules and making microtubules glide along a solid substrate. Kinesin uses energy liberated from ATP hydrolysis to transport particles towards the "plus ends" of microtubules. Kinesin, from a variety of animals, is an $\alpha_2\beta_2$ heterotetramer consisting of two polypeptide heavy chains of relative molecular weight 110-140 kDa and copurifying light chains of 40-80 kDa. Proteolytic cleavage of kinesin yields a heavy chain fragment of ~45 kDa. The heavy chains are arranged in a structure consisting of two globular heads attached to a fibrous coiled-coil stalk which terminates in a "feathered tail" containing microtubule-binding and ATPase sites. Kinesin is proposed to participate in organelle/vesicle transport and in organizing the endomembrane system.

Kinesin antibodies have been used to establish immunological relatedness between kinesin from various cell types, as well as to identify, purify and localize their corresponding antigens.[5,6]

Reagent

Supplied as ascites fluid with 0.1% sodium azide as a preservative.

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 extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezer, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Immunoblotting: **a** working dilution of 1:500 is recommended using denatured and reduced kinesin-enriched rat brain preparation.

Note: In order to obtain the best results in various techniques and preparations, it is recommended that each individual user determine their optimum working dilutions by titration.

References

1. Kuznetsov, S., et al., *J. Biol. Chem*., **261**, 589 (1989).
2. Brady, S., *Nature*, **317**, 73 (1985).
3. Yang, J., et al., *Science*, **249**, 42 (1990).
4. Vale, R., *Curr. Op. Cell Biol*., **2**, 15 (1990).
5. Ingold, A., et al., *J. Cell Biol*., **107**, 2657 (1988).
6. Brady, S., et al., *Proc. Natl. Acad. Sci. (USA)*, **87**, 1061 (1990).

MG,KAA,PHC 01/08-1