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Product Information

Monoclonal Anti-KIF4
Clone 3E2
produced in mouse, purified immunoglobulin

Catalog Number **K1765**

Product Description

Monoclonal Anti-KIF4 (mouse IgG1 isotype) is derived from the hybridoma 3E2 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a recombinant protein corresponding to amino acids 1071-1231 of rat KIF4 (GeneID: 84393). The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-KIF4 recognizes rat, mouse, and human KIF4. The antibody may be used in various immunochemical techniques including ELISA, immunoblotting (~140 KDa), immunoprecipitation, and immunocytochemistry.

The kinesin superfamily proteins (KIFs) are motor proteins that transport membranous organelles and macromolecules fundamental for cellular function along microtubules. Individual kinesin members play crucial roles in cell division, intracellular transport, and membrane trafficking events.[1] KIF4, a member of this family, is a microtubule-based plus-end directed motor protein composed of an NH_2-terminal globular motor domain, a central α-helical stalk domain, and a COOH-terminal tail domain. It has the property of nucleotide-dependent binding to microtubules, microtubule-activated ATPase activity, and microtubule plus-end-directed motility. KIF4 is strongly expressed in juvenile tissues including differentiated young neurons. In adult mice its expression is considerably deceased except in the spleen. It is co-localized with membranous organelles in the growth cones of differentiated neurons as well as in the cytoplasm of cultured fibroblasts.[2] KIF4 has been shown to be associated with L1, a cell adhesion molecule implicated in axonal elongation.[3] In addition, it was also found to co-localize with membranous organelles in the mitotic spindle and has also been implicated as essential for mid-zone formation and cytokinesis.[4] The loss of KIF4 leads to tumor formation resulting from aneuploidy.[5]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 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 extended storage, freeze in working aliquots. 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 working concentration of 2-4 µg/mL is recommended using 3T3 total cell extract.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Harukata, M., et al., *Trends Cell Biol.,* **15**, 467-476 (2005).
2. Sekine, Y., et al., *J. Cell Biol.,* **127,** 187-201 (1994).
3. Peretti, D., et al., *J. Cell Biol.,* **149,** 141-152 (2000).
4. Zhu, C., and Jiang, W., *Proc. Natl. Acad. Sci. USA,* **102**, 343-348 (2005).
5. Mazumdar, M., et al., *Curr. Biol.,* **16**, 1559-1564 (2006).

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