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Product Information

Monoclonal Anti-hKid
Clone 8C12
produced in mouse, purified immunoglobulin

Catalog Number **K1390**

Product Description

Monoclonal Anti-hKid (mouse IgG1 isotype) is derived from the hybridoma 8C12 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified human hKid (Gene ID: 3835).[1] The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-hKid recognizes human Kid.[1] The antibody may be used in various immunochemical techniques including ELISA,[1] immunoblotting[1, 2] (~65 kDa), immunoprecipitation, and immunocytochemistry.[1]

During mitosis, the genetic material is divided correctly between two daughter cells. This is ensured by the action of the mitotic spindle, which is a large macromolecular machinery consisting of microtubules, chromosomes, molecular motors and other microtubule (MT)-associated protein complexes.[3] Mitotic motors comprise cytoplasmic dynein and proteins of the kinesin superfamily. This superfamily consists of 14 subfamilies that are characterized by their well-conserved motor domain. Most mitotic kinesins regulate stability and/ or assembly of microtubules while others have been implicated in the transport of specific cargos. A kinesin subgroup, the chromokinesins, localizes to the nucleus during interphase and is characterized by the ability to bind DNA or chromatin. Chromokinesins act in various steps of mitosis, such as chromosome congression, condensation and cytokinesis.

The chromokinesin hKid is a member of the kinesin-10 family, which also contains its homologs Xkid (*Xenopus*) and nod (*Drosophila*).[4] Both, Xkid and hKid are required to establish and maintain chromosome alignment at the metaphase plate.[5, 6] While Xkid has to be degraded during anaphase to allow chromosome segregation, hKid is regulated by cdk1 phosphorylation and is degraded at the beginning of the G1 phase.[5, 7]

hKid is a plus-end directed microtubule-based motor localizing to chromosomes and the mitotic spindle.[8, 9] Depletion of hKid by antibody microinjection or RNAi has revealed that hKid is important for chromosome arm orientation and oscillation as well as stabilization of spindle microtubules.[10,11] However, loss of hKid only moderately impairs chromosome congression since most cells progress normally through mitosis.[10] Nevertheless, in cells arrested in mitosis by expression of non-degradable cyclin B1, depletion of hKid prevents stable bipolar spindles and the “metaphase-like” alignment of chromosomes.[2]

Reagent

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

Antibody concentration: ~ 1 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 extended storage, freeze at –20 °C 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 discard if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using HeLa total cell extract.

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

References

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GG,KAA,PHC 04/08-1