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Product Information

Anti-CENP-E
produced in rabbit, IgG fraction of antiserum

Catalog Number **C7488**

Product Description

Anti-CENP-E is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 2545-2563 located near the C-terminus of human CENP-E conjugated to KLH. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-CENP-E recognizes human CENP-E (~310 kDa). Applications include the detection of CENP-E by immunoblotting and immunocytochemistry. Staining of CENP-E in immunoblotting is specifically inhibited with the CENP-E immunizing peptide.

Chromosome movements during mitosis are orchestrated primarily by the interaction of mitotic spindle microtubules with the kinetochore, the site of attachment of spindle microtubules to the centromere.[1, 2] Centromere-associated protein-E (CENP-E, 312 kDa) is a member of the kinesin superfamily of microtubule motor proteins and is an integral part of kinetochore corona fibers that link centromere to the spindle microtubules.[3, 4] CENP-E plays an important role in attachment of kinetochores to spindle microtubules in the alignment of chromosomes and is an essential component of mitotic checkpoint signaling cascade.[4-8] CENP-E localizes to the kinetochore throughout all phases of mitotic chromosome movement from early prometaphase through anaphase A. Cell-cycle dependent accumulation of CENP-E yields a maximum of 5,000 molecules per HeLa cell at the G2/M-phase transition.

Several studies indicate that CENP-E functions as a motor in the initial chromosome movement at the mitotic midzone. Depletion of CENP-E from *Xenopus* egg extracts disrupts metaphase chromosome alignment. CENP-E has been shown to be associated with minus end-directed microtubule motor activity suggesting that CENP-E might be responsible for poleward kinetochore movements in prometaphase and anaphase A.[5] In addition, CENP-E powers movement toward microtuble plus-end suggesting that it functions at the trailing kinetochore to link antipoleward movement to microtubule growth.[6] Suppression of CENP-E synthesis by antisense CENP-E yields chromosomes that are chronically mono-oriented with flattened bipolar spindles and generates spindle poles fragments. Depletion of CENP-E leads to profound checkpoint activation and long-term mitotic arrest. CENP-E has been implicated as a binding partner for the mitotic checkpoint kinase BubR1 during mitosis.[8-10]

Reagent

Solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

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

Store at –20 °C. For continuous use, the product may be stored 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 dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a minimum working antibody dilution of 1:2,000 is recommended using a whole extract of HeLa nuclear cell line.

Immunocytochemistry: a minimum working antibody dilution of 1:100 is recommended using the human epitheloid carcinoma HeLa cell line.

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

References

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