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CENPE Rabbit pAb

Catalog # AP98230

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q02224
Other Accession	Q02224
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	316415
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CENPE
Epitope Specificity	1951-2050/2701
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the TRAFAC class myosin-kinesin ATPase superfamily. Kinesin family.Contains 1 kinesin motor domain.
SUBUNIT	Monomer. Interacts with CENPF, SEPT7, KIF18A, BUB1B kinase and PRC1. Interacts with NUF2; this interaction determines kinetochore localization. Interacts with SKAP; this interaction greatly favors SKAP binding to microtubules.
Post-translational modifications	The C-terminal inhibitory domain is phosphorylated. Phosphorylation relieves autoinhibition of the kinetochore motor (By similarity
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Centrosome-associated protein E (CENPE) is a kinesin-like motor protein that accumulates in the G2 phase of the cell cycle. Unlike other centrosome-associated proteins, it is not present during interphase and first appears at the centromere region of chromosomes during prometaphase. This protein is required for stable spindle microtubule capture at kinetochores which is a necessary step in chromosome alignment during prometaphase. This protein also couples chromosome position to microtubule depolymerizing activity. Alternative splicing results in multiple transcript variants encoding distinct protein isoforms. [provided by RefSeq, Nov 2014]

Additional Information

Gene ID	1062
Other Names	CENP-E; KIF10; MCPH13; PPP1R61; CENPE_HUMAN; CENPE; Centromere protein E (CENP-E); Kinesin-7; Kinesin-related protein CENPE; centromere protein E; centromere protein E (312kD); centromere protein E, 312kDa; protein phosphatase 1, regulatory subunit 61

Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	CENPE (HGNC:1856)
Function	Microtubule plus-end-directed kinetochore motor which plays an important role in chromosome congression, microtubule-kinetochore conjugation and spindle assembly checkpoint activation. Drives chromosome congression (alignment of chromosomes at the spindle equator resulting in the formation of the metaphase plate) by mediating the lateral sliding of polar chromosomes along spindle microtubules towards the spindle equator and by aiding the establishment and maintenance of connections between kinetochores and spindle microtubules (PubMed:23891108, PubMed:25395579, PubMed:7889940). The transport of pole-proximal chromosomes towards the spindle equator is favored by microtubule tracks that are detyrosinated (PubMed:25908662). Acts as a processive bi-directional tracker of dynamic microtubule tips; after chromosomes have congressed, continues to play an active role at kinetochores, enhancing their links with dynamic microtubule ends (PubMed:23955301). Suppresses chromosome congression in NDC80-depleted cells and contributes positively to congression only when microtubules are stabilized (PubMed:25743205). Plays an important role in the formation of stable attachments between kinetochores and spindle microtubules (PubMed:17535814) The stabilization of kinetochore- microtubule attachment also requires CENPE-dependent localization of other proteins to the kinetochore including BUB1B, MAD1 and MAD2. Plays a role in spindle assembly checkpoint activation (SAC) via its interaction with BUB1B resulting in the activation of its kinase activity, which is important for activating SAC. Necessary for the mitotic checkpoint signal at individual kinetochores to prevent aneuploidy due to single chromosome loss (By similarity).
Cellular Location	Chromosome, centromere, kinetochore. Cytoplasm, cytoskeleton, spindle. Chromosome, centromere. Note=Associates with kinetochores during congression (as early as prometaphase), relocates to the spindle midzone at anaphase, and is quantitatively discarded at the end of the cell division (By similarity). Recruited to the kinetochore in a SEPT7, CENPQ and TRAPPC12-dependent manner (PubMed:18460473, PubMed:25395579, PubMed:25918224). Recruited to the pericentromeric/centromeric regions of the chromosome in a CTCF- dependent manner (PubMed:26321640). {ECO:0000250|UniProtKB:Q6RT24, ECO:0000269|PubMed:18460473, ECO:0000269|PubMed:25395579, ECO:0000269|PubMed:25918224, ECO:0000269|PubMed:26321640}

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.