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Mouse Casc5 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19227b

Product Information

Application	WB, E
Primary Accession	Q66JQ7
Reactivity	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB40173
Calculated MW	238185
Antigen Region	1557-1583

Additional Information

Gene ID	76464
Other Names	Protein CASC5, Cancer susceptibility candidate gene 5 protein homolog, Kinetochore-null protein 1, Casc5, Knl1
Target/Specificity	This Mouse Casc5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1557-1583 amino acids from the C-terminal region of mouse Casc5.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Casc5 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

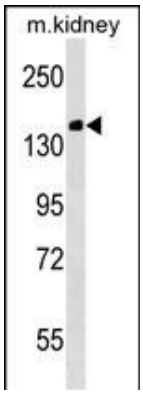
Name	Knl1 {ECO:0000312|MGI:MGI:1923714}
Synonyms	Casc5
Function	Acts as a component of the outer kinetochore KNL1 complex that serves as a docking point for spindle assembly checkpoint components and mediates

	microtubule-kinetochore interactions. Kinetochores, consisting of a centromere-associated inner segment and a microtubule-contacting outer segment, play a crucial role in chromosome segregation by mediating the physical connection between centromeric DNA and spindle microtubules. The outer kinetochore is made up of the ten-subunit KMN network, comprising the MIS12, NDC80 and KNL1 complexes, and auxiliary microtubule-associated components; together they connect the outer kinetochore with the inner kinetochore, bind microtubules, and mediate interactions with mitotic checkpoint proteins that delay anaphase until chromosomes are bioriented on the spindle. Required for kinetochore binding by a distinct subset of kMAPs (kinetochore-bound microtubule-associated proteins) and motors. Acts in coordination with CENPK to recruit the NDC80 complex to the outer kinetochore. Can bind either to microtubules or to the protein phosphatase 1 (PP1) catalytic subunits PPP1CA and PPP1CC (via overlapping binding sites), it has higher affinity for PP1. Recruits MAD2L1 to the kinetochore and also directly links BUB1 and BUB1B to the kinetochore (By similarity). In addition to orienting mitotic chromosomes, it is also essential for alignment of homologous chromosomes during meiotic metaphase I (PubMed:35167144, PubMed:36904774). In meiosis I, required to activate the spindle assembly checkpoint at unattached kinetochores to correct erroneous kinetochore-microtubule attachments (PubMed:35167144, PubMed:36904774).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q8NG31}. Chromosome, centromere, kinetochore Cytoplasm. Note=Weakly expressed in interphase nuclei. Expression increases from prophase to late anaphase, but greatly diminishes from the telophase and cytokinesis to early G1 phase of cell cycle (By similarity). Localizes to the cytoplasm during meiotic prophase I and then the nucleus as meiosis progresses (PubMed:35167144). {ECO:0000250|UniProtKB:Q8NG31, ECO:0000269|PubMed:35167144}
Tissue Location	Expressed in oocytes during meiotic progression (at protein level) (PubMed:35167144). Expressed during spermatogenesis (PubMed:36904774).

Background

Performs two crucial functions during mitosis: it is essential for spindle-assembly checkpoint signaling and for correct chromosome alignment. Directly links spindle checkpoint proteins BUB1 and BUB1B to kinetochores. Part of the MIS12 complex, which may be fundamental for kinetochore formation and proper chromosome segregation during mitosis. Acts in coordination with CENPK to recruit the NDC80 complex to the outer kinetochore (By similarity).

Images



Mouse Casc5 Antibody (C-term) (Cat. #AP19227b) western blot analysis in mouse kidney tissue lysates (35ug/lane).This demonstrates the Casc5 antibody detected the Casc5 protein (arrow).

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