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CASC5 Rabbit pAb

Catalog # AP96711

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q8NG31
Other Accession	Q8NG31
Reactivity	Human, Mouse
Predicted	Rat, Rabbit, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	265391
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CASC5
Epitope Specificity	2251-2342/2342
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBUNIT	Interacts with DSN1, MIS12, BUB1, BUB1B, NSL1 and ZWINT.
DISEASE	Note=A chromosomal aberration involving CASC5 is associated with acute myeloblastic leukemia (AML). Translocation t(11;15)(q23;q14) with MLL/HRX. May give rise to a MLL-CASC5 fusion protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Part of the MIS12 complex, which may be fundamental for kinetochore formation and proper chromosome segregation during mitosis. Four known isoforms exist.

Additional Information

Gene ID	57082
Other Names	AF15Q14; CASC5; CT29; D40; MCPH4; PPP1R55; Spc7; hKNL-1; hSpc105; 2310043D08Rik; 5730505K17Rik; KNL1_HUMAN; KNL1; ALL1-fused gene from chromosome 15q14 protein (AF15q14); Bub-linking kinetochore protein (Blinkin); Cancer susceptibility candidate gene 5 protein; Cancer/testis antigen 29 (CT29); Kinetochore scaffold 1; Kinetochore-null protein 1; Protein CASC5; Protein D40/AF15q14; KIAA1570; KNL1_MOUSE; Cancer susceptibility candidate gene 5 protein homolog; microcephaly, primary autosomal recessive 4; cancer susceptibility candidate 5; cancer/testis antigen 29; kinetochore null 1 homolog (C. elegans); blinkin, bub-linking kinetochore protein; protein phosphatase 1, regulatory subunit 55
Dilution	WB=1:500-2000,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	KNL1 (HGNC:24054)
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 (PubMed:15502821, PubMed:17981135, PubMed:18045986, PubMed:19893618, PubMed:21199919, PubMed:22000412, PubMed:22331848, PubMed:27881301, PubMed:30100357). 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 (PubMed:18045986, PubMed:19893618, PubMed:27881301). 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 (PubMed:17981135, PubMed:19893618, PubMed:22000412, PubMed:38459127, PubMed:38459128). Required for kinetochore binding by a distinct subset of kMAPs (kinetochore-bound microtubule-associated proteins) and motors (PubMed:19893618). Acts in coordination with CENPK to recruit the NDC80 complex to the outer kinetochore (PubMed:18045986, PubMed:27881301). 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 (PubMed:30100357). Recruits MAD2L1 to the kinetochore and also directly links BUB1 and BUB1B to the kinetochore (PubMed:17981135, PubMed:19893618, PubMed:22000412, PubMed:22331848, PubMed:25308863). In addition to orienting mitotic chromosomes, it is also essential for alignment of homologous chromosomes during meiotic metaphase I (By similarity). In meiosis I, required to activate the spindle assembly checkpoint at unattached kinetochores to correct erroneous kinetochore-microtubule attachments (By similarity).
Cellular Location	Nucleus. Chromosome, centromere, kinetochore. Cytoplasm {ECO:0000250|UniProtKB:Q66JQ7}. 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 (PubMed:19893618). Localizes to the cytoplasm during meiotic prophase I and then the nucleus as meiosis progresses (By similarity). {ECO:0000250|UniProtKB:Q66JQ7, ECO:0000269|PubMed:19893618}
Tissue Location	Highly expressed in testis, where it is localized in germ cells, in particular in spermatocytes and in the pre-acrosome of round spermatids. Detected in the acrosome of ejaculated spermatozoa. Detected in adult thymus, bone marrow, colon, small intestine, appendix and placenta, and in fetal liver and thymus

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