

KD-Validated Anti-Non-SMC Condensin I Complex Subunit D2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1585

Product Information

Application	WB, FC, ICC
Primary Accession	Q15021
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	24GB75
Calculated MW	157182
Gene Name	NCAPD2
Aliases	Non-SMC Condensin I Complex Subunit D2; HCAP-D2; CNAP1; KIAA0159; CAP-D2; Chromosome Condensation-Related SMC-Associated Protein 1; Chromosome-Associated Protein D2; Condensin Complex Subunit 1; XCAP-D2 Homolog; Chromosome Condensation Related SMC Associated Protein 1; Non-SMC Condensin I Complex, Subunit D2; MCPH21; CAPD2
Immunogen	A synthesized peptide derived from human CNAP1

Additional Information

Gene ID	9918
Other Names	Condensin complex subunit 1, Chromosome condensation-related SMC-associated protein 1, Chromosome-associated protein D2, hCAP-D2, Non-SMC condensin I complex subunit D2, XCAP-D2 homolog, NCAPD2 {ECO:0000303 PubMed:27737959, ECO:0000312 HGNC:HGNC:24305}

Protein Information

Name	NCAPD2 {ECO:0000303 PubMed:27737959, ECO:0000312 HGNC:HGNC:24305}
Function	Regulatory subunit of the condensin complex, a complex required for conversion of interphase chromatin into mitotic-like condense chromosomes. The condensin complex probably introduces positive supercoils into relaxed DNA in the presence of type I topoisomerases and converts nicked DNA into positive knotted forms in the presence of type II topoisomerases. May target the condensin complex to DNA via its C-terminal domain (PubMed: 11136719). May promote the resolution of double-strand DNA catenanes (intertwines) between sister chromatids. Condensin-mediated compaction likely increases tension in catenated sister chromatids, providing directionality for type II topoisomerase-mediated strand exchanges toward chromatid decatenation. Required for decatenation of non-centromeric ultrafine DNA bridges during

anaphase. Early in neurogenesis, may play an essential role to ensure accurate mitotic chromosome condensation in neuron stem cells, ultimately affecting neuron pool and cortex size (PubMed:[27737959](#)).

Cellular Location

Nucleus. Cytoplasm. Chromosome. Note=In interphase cells, the majority of the condensin complex is found in the cytoplasm, while a minority of the complex is associated with chromatin. A subpopulation of the complex however remains associated with chromosome foci in interphase cells. During mitosis, most of the condensin complex is associated with the chromatin. At the onset of prophase, the regulatory subunits of the complex are phosphorylated by CDK1, leading to condensin's association with chromosome arms and to chromosome condensation. Dissociation from chromosomes is observed in late telophase

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