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

Rabbit monoclonal antibody
Catalog # AGI1585

Specification

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

Application	**WB, FC, ICC**
Primary Accession	Q15021
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 157 kDa , observed , 150 kDa KDa**
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**

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

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

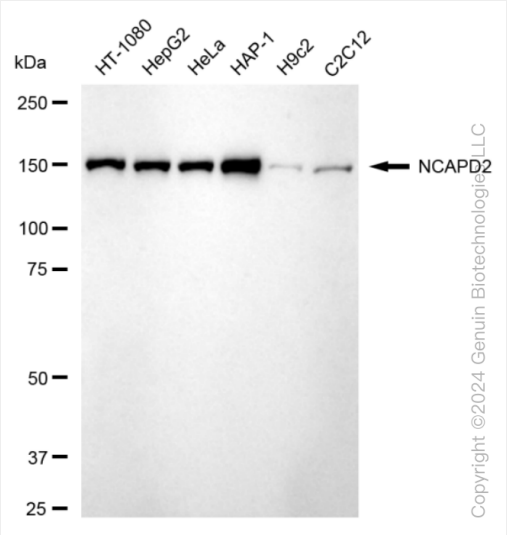
Cellular Location
Nucleus. Cytoplasm. Chromosome. Note=In interphase cells, the majority of the condensin complex is found in the cytoplasm, while a minority of the complex is associated with chromatin. A subpopulation of the complex however remains associated with chromosome foci in interphase cells. 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

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

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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



Western blotting analysis using anti-NCAPD2 antibody (Cat#AGI1585). Total cell lysates (30 µg)

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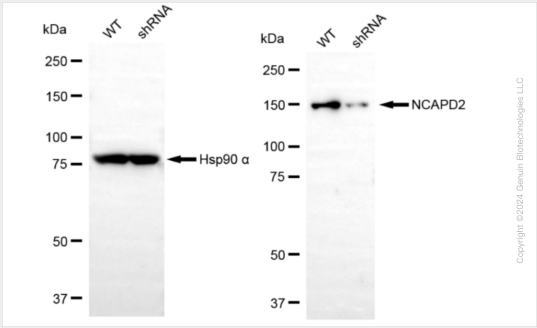
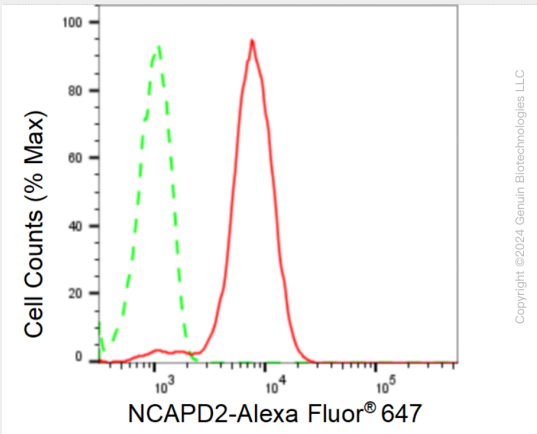
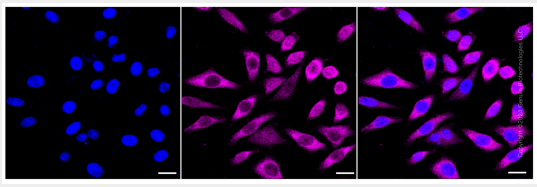
from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-NCAPD2 antibody (Cat#AGI1585, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-NCAPD2 antibody (Cat#AGI1585). NCAPD2 expression in wild type (WT) and NCAPD2 shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-NCAPD2 antibody (Cat#AGI1585, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of NCAPD2 expression in HepG2 cells using NCAPD2 antibody (Cat#AGI1585, 1:2,000). Green, isotype control; red, NCAPD2.



Immunocytochemical staining of HepG2 cells with anti-NCAPD2 antibody (Cat#AGI1585, 1:1,000). Nuclei were stained blue with DAPI; NCAPD2 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.