

Ki-67 - Rmab

Catalog # AP80071

Product Information

Application	IHC-P, E
Primary Accession	P46013
Reactivity	Human
Host	Rabbit
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	176B3C4
Calculated MW	358694

Additional Information

Gene ID	4288
Target/Specificity	Recombinant anti-Ki-67 monoclonal antibody recognizes endogenous levels of total Ki-67 protein.
Dilution	IHC-P~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified recombination monoclonal antibody supplied in PBS with 0.05% (W/V) Proclin300, and 0.05% BSA. This antibody is purified through a protein A column.
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	Ki-67 - Rmab is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

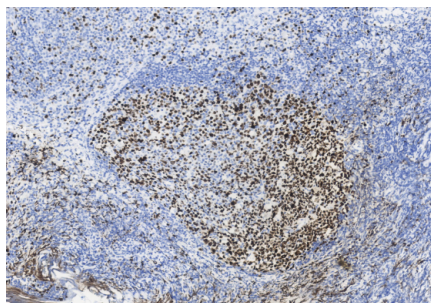
Name	MKI67 (HGNC:7107)
Function	Protein that associates with the surface of mitotic chromosomes and acts both as a chromosome repellent during early mitosis and chromosome attractant during late mitosis (PubMed: 27362226 , PubMed: 32879492 , PubMed: 35513709 , PubMed: 39153474). Required to maintain individual mitotic chromosomes dispersed in the cytoplasm following nuclear envelope disassembly (PubMed: 27362226). During early mitosis, relocates from nucleoli to the chromosome surface where it forms extended brush structures that cover a substantial fraction of the chromosome surface (PubMed: 27362226). The MKI67 brush structure prevents chromosomes from collapsing into a single chromatin mass by forming a steric and electrostatic charge barrier: the protein has a high net electrical charge and acts as a

surfactant, dispersing chromosomes and enabling independent chromosome motility (PubMed:[27362226](#)). During mitotic anaphase, the MKI67 brush structure collapses and MKI67 switches from a chromosome repellent to a chromosome attractant to promote chromosome clustering and facilitate the exclusion of large cytoplasmic particles from the future nuclear space (PubMed:[32879492](#), PubMed:[39153474](#)). Mechanistically, dephosphorylation during mitotic exit and simultaneous exposure of a conserved basic patch induce the RNA-dependent formation of a liquid-like condensed phase on the chromosome surface, promoting coalescence of neighboring chromosome surfaces and clustering of chromosomes (PubMed:[39153474](#)). Binds premature ribosomal RNAs during anaphase; promoting liquid-liquid phase separation (PubMed:[28935370](#), PubMed:[39153474](#)). Binds DNA, with a preference for supercoiled DNA and AT-rich DNA (PubMed:[10878551](#)). Does not contribute to the internal structure of mitotic chromosomes (By similarity). May play a role in chromatin organization; it is however unclear whether it plays a direct role in chromatin organization or whether it is an indirect consequence of its function in mitotic chromosome (PubMed:[24867636](#)).

Cellular Location

Chromosome. Nucleus. Nucleus, nucleolus. Note=During early mitosis, relocalizes from nucleoli to the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the mitotic chromosome surface (PubMed:[27362226](#)) Associates with satellite DNA in G1 phase (PubMed:[9510506](#)). Binds tightly to chromatin in interphase, chromatin-binding decreases in mitosis when it associates with the surface of the condensed chromosomes (PubMed:[15896774](#), PubMed:[22002106](#)). Predominantly localized in the G1 phase in the perinucleolar region, in the later phases it is also detected throughout the nuclear interior, being predominantly localized in the nuclear matrix (PubMed:[22002106](#))

Images



Immunohistochemical analysis of paraffin-embedded human tonsil tissue using AP80071 performed on the Abcarta® FAIP-48 Fully automated IHC platform. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9.0). Samples were incubated with primary antibody for 15 min at room temperature. AmpSee™ Detection Systems (Abcepta:ADR005) was used as the secondary antibody.

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