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Anti-Ki67 Antibody

Catalog # ABO11221

Product Information

Application	WB
Primary Accession	P46013
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Antigen KI-67(MKI67) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	4288
Other Names	Proliferation marker protein Ki-67, Antigen identified by monoclonal antibody Ki-67, Antigen KI-67, Antigen Ki67, MKI67 (HGNC:7107)
Calculated MW	358694
Application Details	Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Nucleus . Nucleus, nucleolus . Chromosome . 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. In mitosis, it is present on all chromosomes.
Source	Eukaryota
Protein Name	Antigen KI-67
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Ki67(3234-3256aa KKAEDNVCVKKIRTRSHRDSEDI).
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated

	freezing and thawing.
Sequence Similarities	Contains 1 FHA domain.

Protein Information

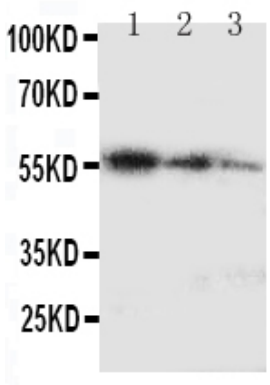
Name	MKI67 (HGNC:7107)
Function	Protein that associates with the surface of mitotic chromosomes and acts both as a chromosome repellent during early mitosis and chromosome attractant during late mitosis (PubMed:27362226, PubMed:32879492, PubMed:35513709, PubMed:39153474). Required to maintain individual mitotic chromosomes dispersed in the cytoplasm following nuclear envelope disassembly (PubMed:27362226). During early mitosis, relocalizes 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)

Background

Ki-67(Proliferation-related Ki-67 antigen), also known as MKI67 or KIA, is a protein that in humans is encoded by the MKI67 gene. From study of a panel of human-rodent somatic cell hybrids, Schonk et al.(1989) demonstrated that a gene involved in the expression of the MKI67 antigen is located on chromosome 10. By in situ hybridization, Fonatsch et al.(1991) regionalized the MKI67 gene to chromosome 10q25-qter. By FISH, Traut et al.(1998) mapped the mouse Mki67 gene to chromosome 7F3-F5. Antigen KI-67 is a nuclear protein that is associated with and may be necessary for cellular proliferation. Furthermore it is associated with ribosomal RNA transcription. Inactivation of antigen KI-67 leads to inhibition of ribosomal

RNA synthesis.

Images



Anti-Ki67 antibody, ABO11221, Western blottingRecombinant Protein Detection Source: E.coli derived -recombinant Human Ki67 50.3KD(162aa tag+ K2967-I3256)Lane 1: Recombinant Human Ki67 Protein 10ngLane 2: Recombinant Human Ki67 Protein 5ngLane 3: Recombinant Human Ki67 Protein 2.5ng

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