

Ki-67 antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8727b

Specification

Ki-67 antibody - Product Information

Application	WB, IHC-P,E
Primary Accession	P46013
Reactivity	Human
Predicted	Human
Host	Mouse
Clonality	monoclonal
Isotype	IgG1

Ki-67 antibody - 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)

Target/Specificity

This antibody is generated from a mouse immunized with a KLH conjugated synthetic peptide between 1000-1213 amino acids from human.

Dilution

WB~~1:1000
IHC-P~~1:500

E~~Use at an assay dependent concentration.

Format

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

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 antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Ki-67 antibody - 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

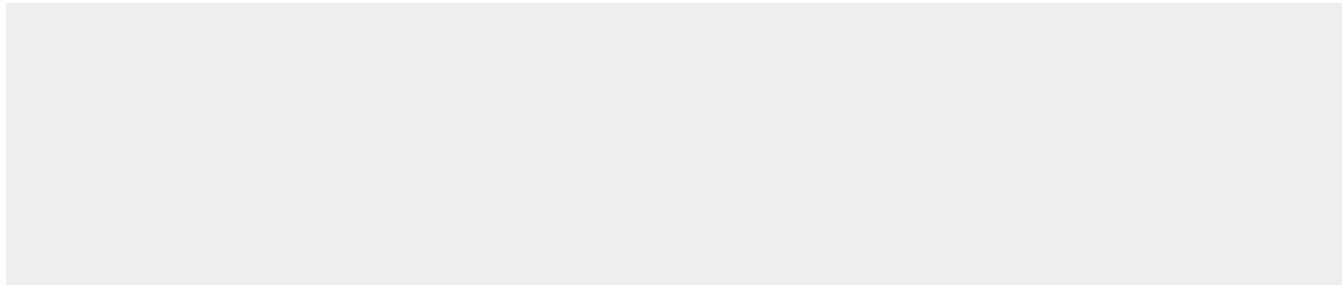
Chromosome. Nucleus. Nucleus, nucleolus. Note=During early mitosis, relocates from nucleoli to the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the mitotic chromosome surface (PubMed:[27362226](#)) Associates with satellite DNA in G1 phase (PubMed:[9510506](#)). 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](#))

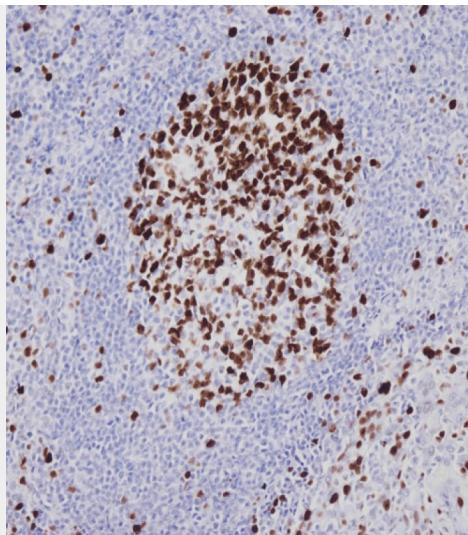
Ki-67 antibody - Protocols

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

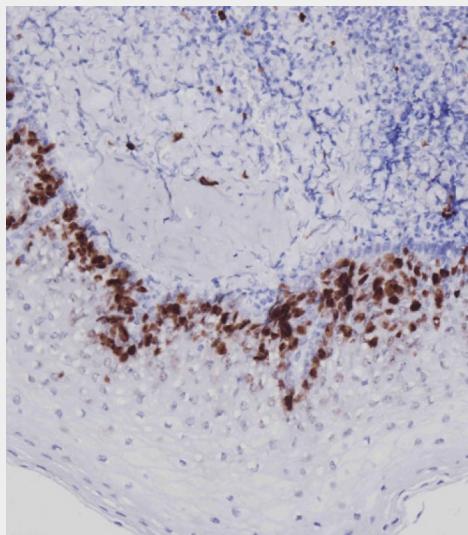
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Ki-67 antibody - Images

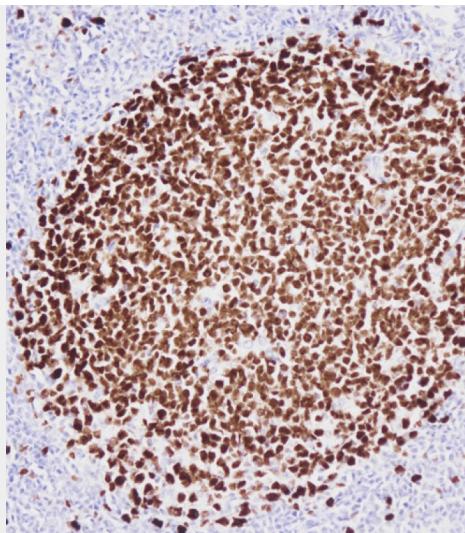




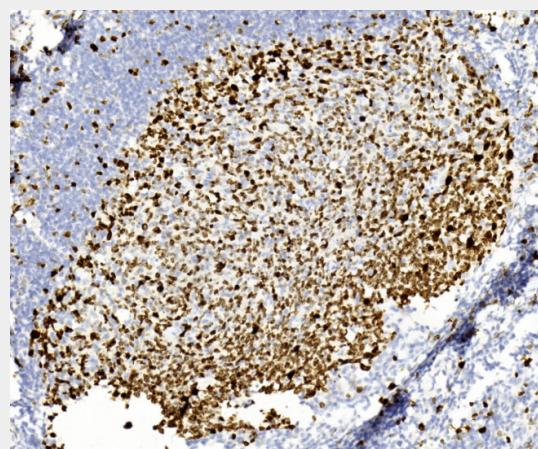
Immunohistochemical analysis of P46013 on paraffin-embedded Human tonsil tissue. Tissue was fixed with formaldehyde at room temperature. Heat induced epitope retrieval was performed by EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hour at room temperature. Undiluted CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



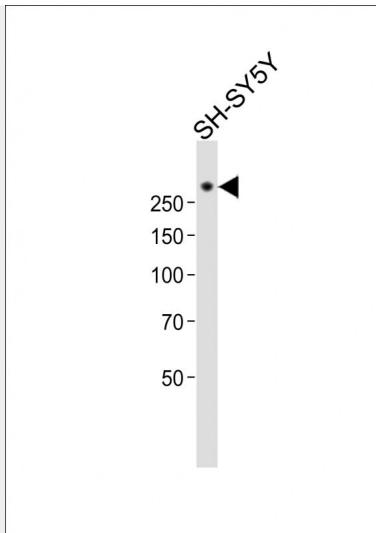
Immunohistochemical analysis of P46013 on paraffin-embedded Human tonsil tissue. Tissue was fixed with formaldehyde at room temperature. Heat induced epitope retrieval was performed by EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hour at room temperature. Undiluted CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



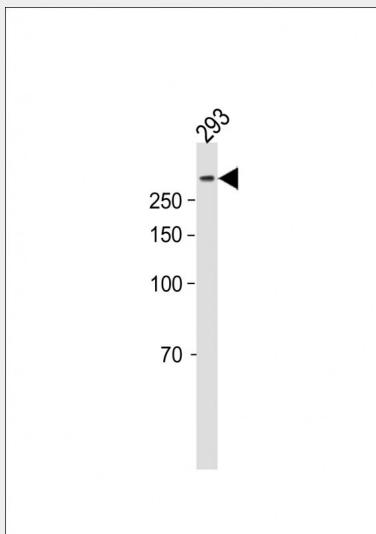
Immunohistochemical analysis of P46013 on paraffin-embedded Human tonsil tissue. Tissue was fixed with formaldehyde at room temperature. Heat induced epitope retrieval was performed by EDTA buffer (pH9.0). Samples were incubated with primary antibody(1:500) for 1 hour at room temperature. Undiluted CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Immunohistochemical analysis of paraffin-embedded Human tonsil section using Pink1(Cat#AM8727b). AM8727b was diluted at 1:200 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



All lanes: Anti-Ki-67 antibody at 1:1000 dilution + SH-SY5Y whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Observed band size: 359 KDa Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-Ki-67 antibody at 1:1000 dilution + 293 cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 359 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Ki-67 antibody - Background

Required to maintain individual mitotic chromosomes dispersed in the cytoplasm following nuclear envelope disassembly (PubMed:27362226). Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the chromosome surface (PubMed:27362226). 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). 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 (PubMed:24867636). It is however unclear whether it plays a direct role in chromatin organization or whether it is an indirect consequence of its function in maintaining mitotic chromosomes dispersed (Probable).

Ki-67 antibody - References

Schlueter C.,et al.J. Cell Biol. 123:513-522(1993).
Deloukas P.,et al.Nature 429:375-381(2004).
Gerdes J.,et al.Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
Gerdes J.,et al.Int. J. Cancer 31:13-20(1983).
Gerdes J.,et al.J. Immunol. 133:1710-1715(1984).

Ki-67 antibody - Citations

- [Serine Protease-Mediated Cutaneous Inflammation: Characterization of an Ex Vivo Skin Model for the Assessment of Dexamethasone-Loaded Core Multishell-Nanocarriers](#)