

Product datasheet

Anti-Ki67 antibody [4A1] ab86373

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Overview

Product name	Anti-Ki67 antibody [4A1]
Description	Mouse monoclonal [4A1] to Ki67
Host species	Mouse
Tested applications	Suitable for: ELISA, IHC-P, IHC-Fr, Flow Cyt
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide: EDLAGFKELFQTPG conjugated to KLH, corresponding to amino acids 1222-1235 of Human Ki67 Run BLAST with Run BLAST with
Positive control	Human lymph node, esophagus, lung cancer and rectum cancer tissues.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.03% Sodium azide Constituent: Ascites
Purity	Ascites
Clonality	Monoclonal
Clone number	4A1
Isotype	IgG2b

Applications

The Abpromise guarantee Our [Abpromise guarantee](#) covers the use of ab86373 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ELISA		1/10000.

Application	Abreviews	Notes
IHC-P		1/200 - 1/1000.
IHC-Fr		1/200 - 1/1000.
Flow Cyt		Use 1µg for 10 ⁶ cells. ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Target

Function

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.

Sequence similarities

Contains 1 FHA domain.
Contains 16 K167R repeats.
Contains 1 PP1-binding domain.

Developmental stage

Expression occurs preferentially during late G1, S, G2 and M phases of the cell cycle, while in cells in G0 phase the antigen cannot be detected (at protein level) (PubMed:6206131). Present at highest level in G2 phase and during mitosis (at protein level). In interphase, forms fiber-like structures in fibrillarin-deficient regions surrounding nucleoli (PubMed:2674163, PubMed:8799815).

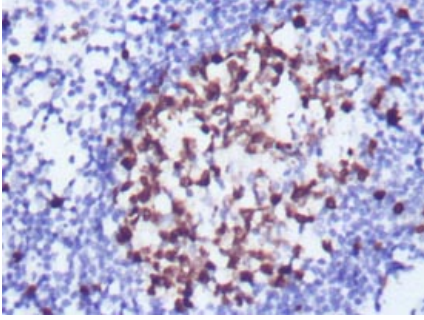
Post-translational modifications

Phosphorylated. Hyperphosphorylated in mitosis (PubMed:10502411, PubMed:10653604). Hyperphosphorylated form does not bind DNA.

Cellular localization

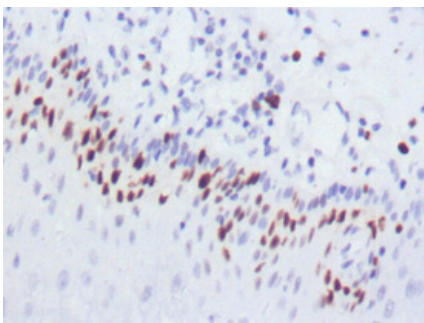
Chromosome. Nucleus. Nucleus, nucleolus. Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the mitotic chromosome surface (PubMed:27362226). Associates with satellite DNA in G1 phase (PubMed:9510506). Binds tightly to chromatin in interphase, 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



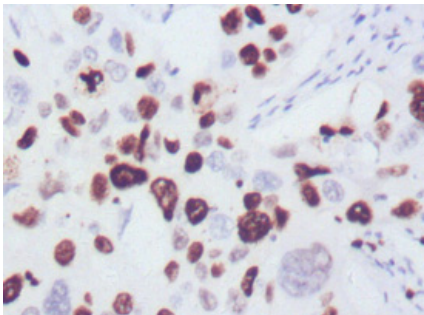
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ki67 antibody [4A1] (ab86373)

ab86373 at 1/200 dilution staining Ki67 in human lymph node by Immunohistochemistry, paraffin-embedded tissue with DAB staining showing nuclear location.



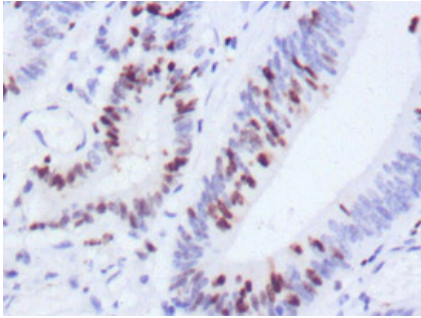
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ki67 antibody [4A1] (ab86373)

ab86373 at 1/200 dilution staining Ki67 in human esophagus by Immunohistochemistry, paraffin-embedded tissue with DAB staining showing nuclear location.



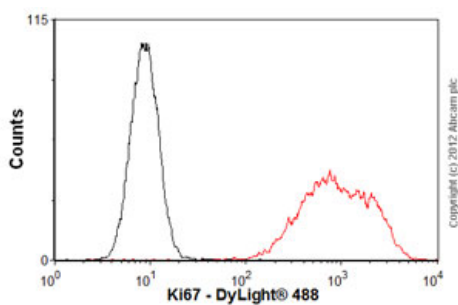
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ki67 antibody [4A1] (ab86373)

ab86373 at 1/200 dilution staining Ki67 in human lung cancer by Immunohistochemistry, paraffin-embedded tissue with DAB staining showing nuclear location.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ki67 antibody [4A1] (ab86373)

ab86373 at 1/200 dilution staining Ki67 in human rectum cancer by Immunohistochemistry, paraffin-embedded tissue with DAB staining showing nuclear location.



Flow Cytometry - Anti-Ki67 antibody [4A1] (ab86373)

Overlay histogram showing Ramos cells stained with ab86373 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab86373, 1 µg/1x10⁶ cells) for 30 min at 22°C. The secondary antibody used was goat [anti-mouse DyLight® 488](#) (IgG H+L) ([ab96879](#)) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] ([ab91366](#), 2 µg/1x10⁶ cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Ramos cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

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