abcam

ab238020

Anti-Ki67 antibody [MKI67/2465]

Anti-Ki67 antibody [MKI67/2465] (ab238020) is a mouse monoclonal antibody detecting Ki67 in **Flow Cytometry, IHC-P**. Suitable for **Human**.

- Over 10 publications

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.05% Sodium azide Constituents: PBS, 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human MKI67 aa 2250 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P46013
Clone number	MKI67/2465
Purification technique	Affinity purification Protein A/G
Light chain type	kappa
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from Bioreactor concentrate.

Reactivity data

ICC

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	1-2 µg/million cells

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Protein Array

Tested

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.

Notes	-

IHC-P

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	Primary incubation for 30 minutes at room temperature.

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information MKI67

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Ki67 antibody [MKI67/2465] (ab238020) is a mouse monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P) in Human samples.

Trusted by the scientific community
Anti-Ki67 [MKI67/2465] (ab238020) was first used in a scientific publication in 2019 and has been cited over 10 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [MKI67/2465] also available for your convenience: ab238020, Biotin - ab271811

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Ki67 is a nuclear protein often referred to as MKI67 with a molecular weight of approximately 345 kDa. This protein is strongly associated with cell proliferation. Scientists commonly use Ki67 staining techniques to identify and quantify proliferating cells in tissues. Ki67 is expressed in the nucleus during active cell cycle phases—G1 S G2 and M—but not in resting cells in G0 phase. It is detectable through methods such as Ki67 immunofluorescence and Ki67 flow cytometry which are important for analyzing cell division.

Biological function summary	The Ki67 protein plays an essential role in cellular proliferation processes. It does not form part of a stable complex but interacts transiently with other cell cycle-related proteins. Research indicates that Ki67 maintains the structure of the perichromosomal layer during mitosis impacting chromosome separation. It is particularly active in tissues with high cell turnover such as bone marrow and lymphoid organs.
Pathways	Ki67 influences several key cellular pathways that control cell proliferation and differentiation. The protein acts within the regulation of the cell cycle and the PI3K/AKT signaling pathway important for cell growth and survival. Within these pathways Ki67 interacts with proteins like cyclin-dependent kinases (CDKs) which regulate transitions between different phases of the cell cycle.
Associated diseases and disorders	Ki67 has significant implications in oncology and can be used as a biomarker for cancer prognosis. Its expression levels help determine the aggressiveness of tumors especially in breast cancer and prostate cancer. High Ki67 levels correlate with poor prognosis as it indicates rapid cell division. In cancer Ki67 associates with p53 a protein that regulates the cell cycle and function as a tumor suppressor.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

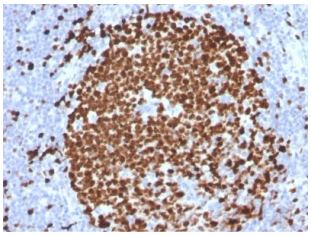
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

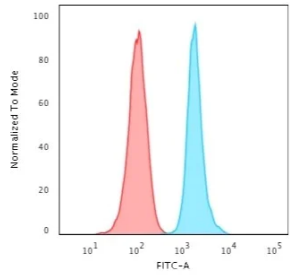
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ki67 antibody [MKI67/2465] (ab238020)

Ki67 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Ki67 antibody

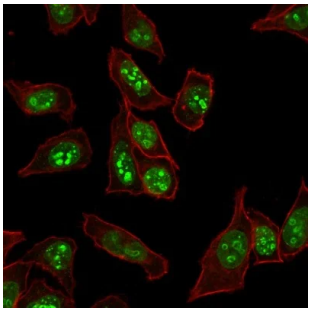
Formalin-fixed, paraffin-embedded human tonsil tissue stained for Ki67 using ab238020 at 2 µg/ml in immunohistochemical analysis.



Flow Cytometry - Anti-Ki67 antibody [MKI67/2465] (ab238020)

Ki67 Flow Cytometry staining using mouse Anti-Ki67 antibody

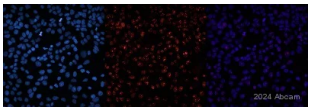
Flow cytometric analysis of HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling Ki67 with ab238020 at 2 µg per 10^6 cells (blue) compared to an isotype control (red). A Goat Anti-mouse CF488 secondary antibody was used.



Immunocytochemistry - Anti-Ki67 antibody [MKI67/2465] (ab238020)

Ki67 Immunocytochemistry staining using mouse Anti-Ki67 antibody

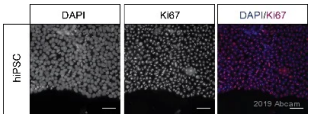
MCF7 (human breast adenocarcinoma cell line) cells stained for Ki67 (green) using ab238020 at 2 µg/mL in ICC. The membrane is labelled with phalloidin (red).



This image is courtesy of a customer review submitted by Ingrid Saldana

Immunocytochemistry - Anti-Ki67 antibody [MKI67/2465] (ab238020)

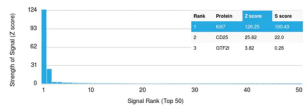
Immunocytochemistry analysis of paraformaldehyde-fixed human hES cells differentiated into neural crest cells permeabilized with 0.5% Triton, staining with ab238020 at 1/100 dilution. Secondary antibody was Alexa Fluor™ 647 Goat anti Mouse at 1/500 dilution. Cells were incubated with the primary antibody with 10% serum in PBS for 18 hours at 4°C . Blocking was done using 10% serum for 2 hours at room 25°C.



This image is courtesy of an anonymous customer review

Immunocytochemistry - Anti-Ki67 antibody [MKI67/2465] (ab238020)

Immunocytochemistry analysis of formaldehyde-fixed human hiSPC cells, staining with ab238020 at 1/100 dilution. Secondary antibody was Alexa Fluor® 647 goat anti mouse 1/1000 dilution. Cells were incubated with the primary antibody with 1% BSA 0.3% Triton X for 12 hours at 4°C . Blocking was done using 3% BSA for 1 hour.



Protein Array - Anti-Ki67 antibody [MKI67/2465] (ab238020)

ab238020 was tested in protein array against over 19000 different full-length human proteins.
Z- and S- Score: The Z-score represents the strength of a signal that a monoclonal antibody (MAb) (in combination with a fluorescently-tagged anti-IgG secondary antibody) produces when binding to a particular protein on the HuProtTM array. Z-scores are described in units of standard

deviations (SD's) above the mean value of all signals generated on that array. If targets on HuProtTM are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-score. S-score therefore represents the relative target specificity of a MAb to its intended target.
A MAb is specific to its intended target if the MAb has an S-score of at least 2.5. For example, if a MAb binds to protein X with a Z-score of 43 and to protein Y with a Z-score of 14, then the S-score for the binding of that MAb to protein X is equal to 29.

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