

**Anti-Ki67 Antibody Picoband™ (monoclonal, 5E12)**  
Catalog # ABO15053**Specification****Anti-Ki67 Antibody Picoband™ (monoclonal, 5E12) - Product Information**

Application	IHC, IF, ICC, FC
Primary Accession	<a href="#">P46013</a>
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized

**Description**

Anti-Ki67 Antibody Picoband™ (monoclonal, 5E12) . Tested in Flow Cytometry, IF, IHC, ICC applications. This antibody reacts with Human.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-Ki67 Antibody Picoband™ (monoclonal, 5E12) - 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](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=7107))

**Application Details**

Immunohistochemistry (Paraffin-embedded Section), 2-5 µg/ml, Human  
Immunocytochemistry/Immunofluorescence, 5 µg/ml, Human  
Immunofluorescence, 5 µg/ml, Human  
Flow Cytometry, 1-3 µg/1x10<sup>6</sup> cells, Human

**Contents**

Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na<sub>2</sub>HPO<sub>4</sub>.

**Immunogen**

E. coli-derived human Ki67 recombinant protein (Position: K2860-I3256).

**Purification**

Immunogen affinity purified.

**Storage**

**Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.**

## Anti-Ki67 Antibody Picoband™ (monoclonal, 5E12) - Protein Information

Name MKI67 ([HGNC:7107](#))

### Function

Required to maintain individual mitotic chromosomes dispersed in the cytoplasm following nuclear envelope disassembly (PubMed:<a href="http://www.uniprot.org/citations/27362226" target="\_blank">27362226</a>). Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the chromosome surface (PubMed:<a href="http://www.uniprot.org/citations/27362226" target="\_blank">27362226</a>). 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:<a href="http://www.uniprot.org/citations/27362226" target="\_blank">27362226</a>). Binds DNA, with a preference for supercoiled DNA and AT-rich DNA (PubMed:<a href="http://www.uniprot.org/citations/10878551" target="\_blank">10878551</a>). Does not contribute to the internal structure of mitotic chromosomes (By similarity). May play a role in chromatin organization (PubMed:<a href="http://www.uniprot.org/citations/24867636" target="\_blank">24867636</a>). 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).

### Cellular Location

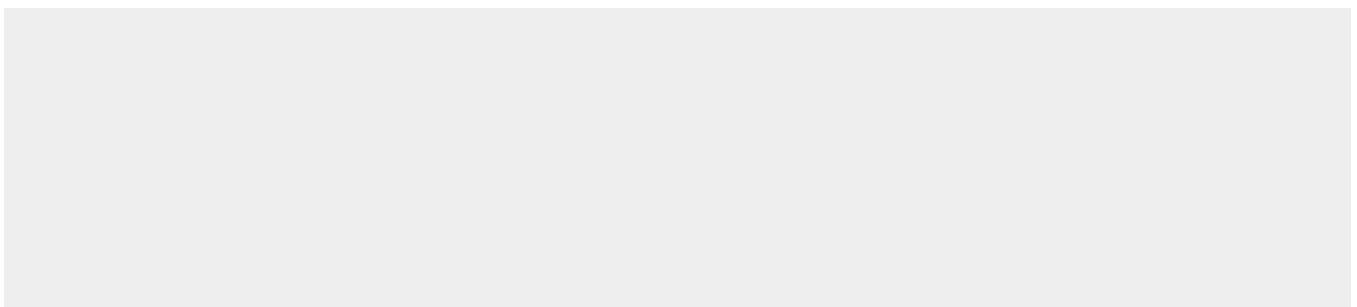
Chromosome. Nucleus. Nucleus, nucleolus Note=Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the mitotic chromosome surface (PubMed:27362226). Associates with satellite DNA in G1 phase (PubMed:9510506). Binds tightly to chromatin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

## Anti-Ki67 Antibody Picoband™ (monoclonal, 5E12) - 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](#)

## Anti-Ki67 Antibody Picoband™ (monoclonal, 5E12) - Images



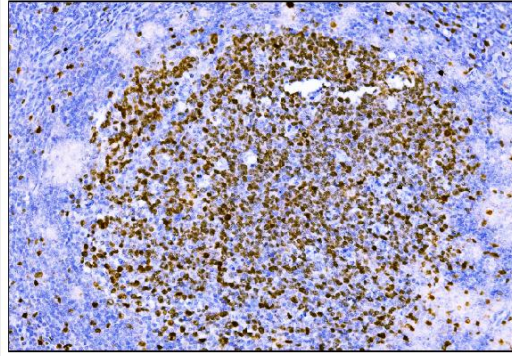


Figure 1. IHC analysis of Ki67 using anti-Ki67 antibody (M00254-8). Ki67 was detected in paraffin-embedded section of human tonsil tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2  $\mu$ g/ml mouse anti-Ki67 Antibody (M00254-8) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

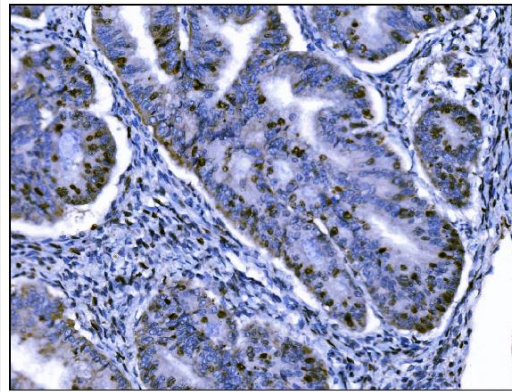


Figure 2. IHC analysis of Ki67 using anti-Ki67 antibody (M00254-8). Ki67 was detected in paraffin-embedded section of human cervical cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2  $\mu$ g/ml mouse anti-Ki67 Antibody (M00254-8) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

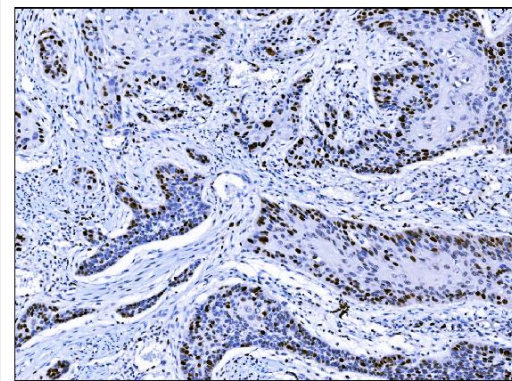


Figure 3. IHC analysis of Ki67 using anti-Ki67 antibody (M00254-8).



Ki67 was detected in paraffin-embedded section of human esophageal squamous carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2  $\mu$ g/ml mouse anti-Ki67 Antibody (M00254-8) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

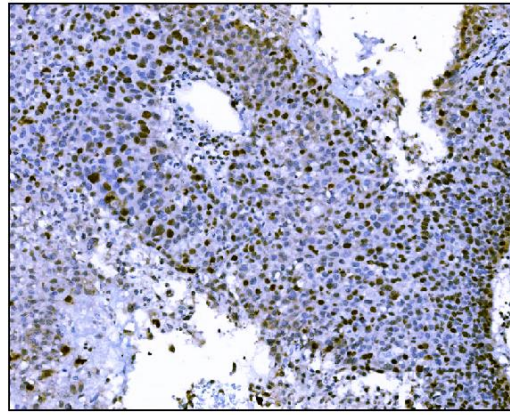


Figure 4. IHC analysis of Ki67 using anti-Ki67 antibody (M00254-8).

Ki67 was detected in paraffin-embedded section of human liver tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2  $\mu$ g/ml mouse anti-Ki67 Antibody (M00254-8) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

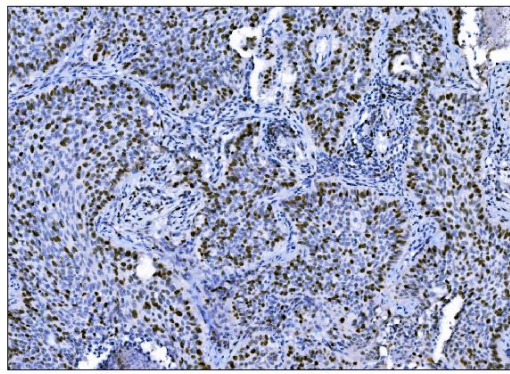


Figure 5. IHC analysis of Ki67 using anti-Ki67 antibody (M00254-8).

Ki67 was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2  $\mu$ g/ml mouse anti-Ki67 Antibody (M00254-8) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

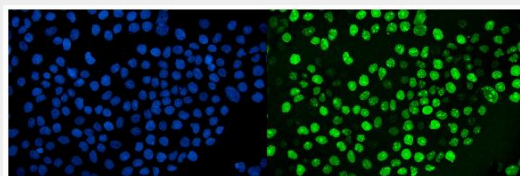


Figure 6. IF analysis of Ki67 using anti-Ki67 antibody (M00254-8).

Ki67 was detected in immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-Ki67 Antibody (M00254-8) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

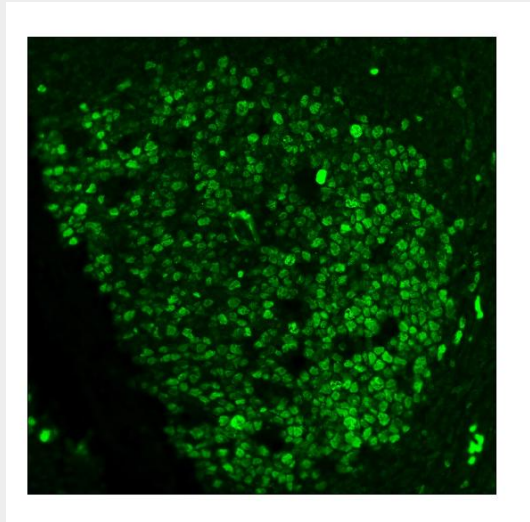


Figure 7. IF analysis of Ki67 using anti-Ki67 antibody (M00254-8).

Ki67 was detected in paraffin-embedded section of human tonsil tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 µg/mL mouse anti-Ki67 Antibody (M00254-8) overnight at 4°C. Biotin conjugated goat anti-mouse IgG (BA1001) was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using DyLight®488 Conjugated Avidin (BA1128). The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

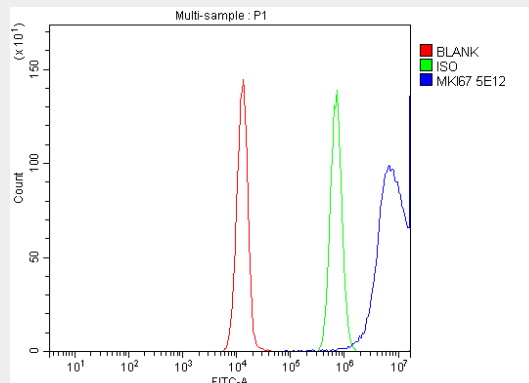


Figure 8. Flow Cytometry analysis of Jurkat cells using anti-Ki67 antibody (M00254-8).

Overlay histogram showing Jurkat cells stained with M00254-8 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Ki67 Antibody (M00254-8, 1 µg/1x10<sup>6</sup> cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10<sup>6</sup> cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10<sup>6</sup>) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

**Anti-Ki67 Antibody Picoband™ (monoclonal, 5E12) - 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, it has been 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.