

## Ki-67 Polyclonal Antibody Catalog # AP70650

### Specification

#### Ki-67 Polyclonal Antibody - Product Information

Application	WB, IHC-P, IF
Primary Accession	<a href="#">P46013</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal

#### Ki-67 Polyclonal Antibody - Additional Information

##### Gene ID 4288

##### Other Names

MKI67; Antigen Ki-67

##### Dilution

WB~~Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/20000. Not yet tested in other applications.

IHC-P~~N/A

IF~~Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/20000. Not yet tested in other applications.

##### Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

##### Storage Conditions

-20°C

#### Ki-67 Polyclonal 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:<a href="http://www.uniprot.org/citations/27362226" target="\_blank">27362226</a>, PubMed:<a href="http://www.uniprot.org/citations/32879492" target="\_blank">32879492</a>, PubMed:<a href="http://www.uniprot.org/citations/35513709" target="\_blank">35513709</a>, PubMed:<a href="http://www.uniprot.org/citations/39153474" target="\_blank">39153474</a>). 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>). 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:<a href="http://www.uniprot.org/citations/27362226" target="\_blank">27362226</a>). 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:<a href="http://www.uniprot.org/citations/27362226" target="\_blank">27362226</a>). 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:<a href="http://www.uniprot.org/citations/32879492" target="\_blank">32879492</a>, PubMed:<a href="http://www.uniprot.org/citations/39153474" target="\_blank">39153474</a>). 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:<a href="http://www.uniprot.org/citations/39153474" target="\_blank">39153474</a>). Binds premature ribosomal RNAs during anaphase; promoting liquid-liquid phase separation (PubMed:<a href="http://www.uniprot.org/citations/28935370" target="\_blank">28935370</a>, PubMed:<a href="http://www.uniprot.org/citations/39153474" target="\_blank">39153474</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; 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:<a href="http://www.uniprot.org/citations/24867636" target="\_blank">24867636</a>).

### Cellular Location

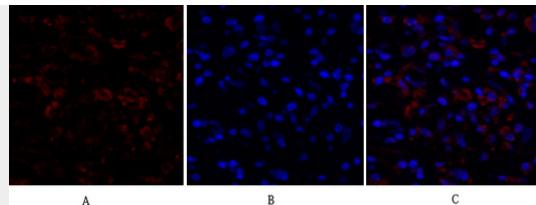
Chromosome. Nucleus. Nucleus, nucleolus. Note=During early mitosis, relocalizes from nucleoli to the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the mitotic chromosome surface (PubMed:27362226) Associates with satellite DNA in G1 phase (PubMed:9510506).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

### Ki-67 Polyclonal Antibody - Protocols

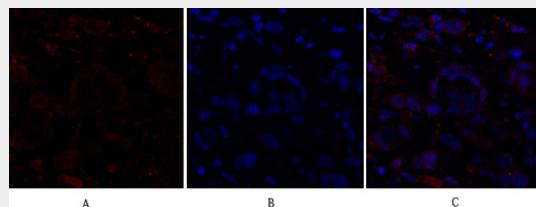
Provided below are standard protocols that you may find useful for product applications.

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

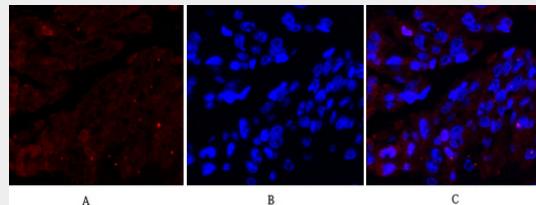
### Ki-67 Polyclonal Antibody - Images



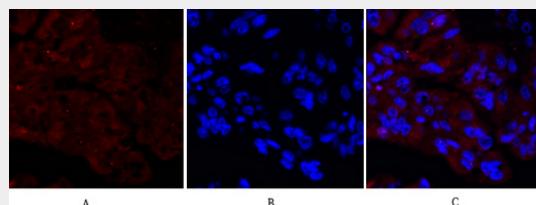
Immunofluorescence analysis of human-breast-cancer tissue. 1, Ki-67 Polyclonal Antibody(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B



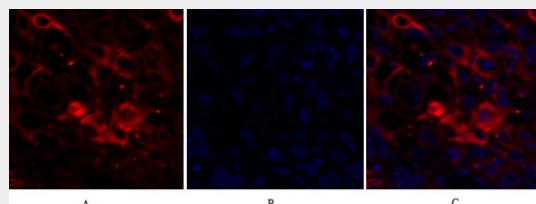
Immunofluorescence analysis of human-breast-cancer tissue. 1, Ki-67 Polyclonal Antibody(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B



Immunofluorescence analysis of human-liver-cancer tissue. 1, Ki-67 Polyclonal Antibody(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B

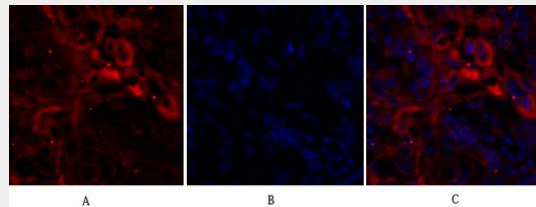


Immunofluorescence analysis of human-liver-cancer tissue. 1, Ki-67 Polyclonal Antibody(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B

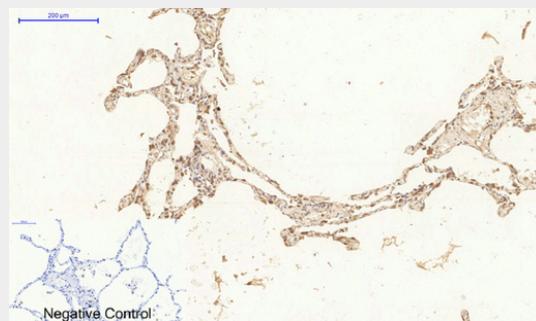


Immunofluorescence analysis of human-lung-cancer tissue. 1, Ki-67 Polyclonal Antibody(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300(room

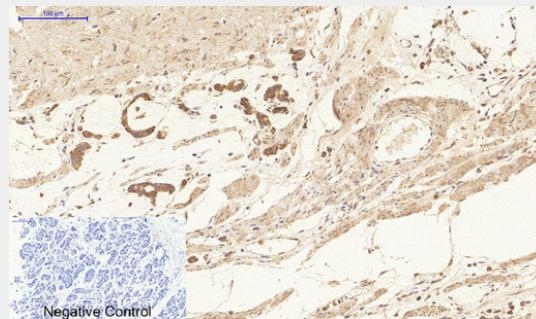
temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B



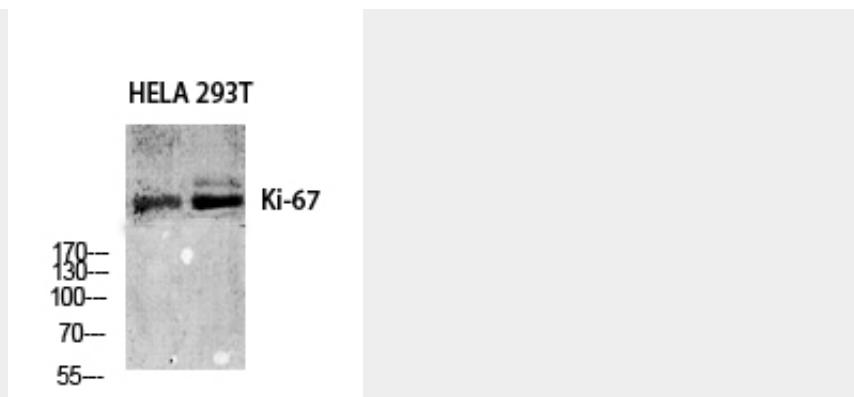
Immunofluorescence analysis of human-lung-cancer tissue. 1,Ki-67 Polyclonal Antibody(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B



Immunohistochemical analysis of paraffin-embedded Human-lung tissue. 1,Ki-67 Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



Immunohistochemical analysis of paraffin-embedded Human-stomach-cancer tissue. 1,Ki-67 Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



Western Blot analysis of various cells using Ki-67 Polyclonal Antibody diluted at 1:1000

#### Ki-67 Polyclonal 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).