

# Product Datasheet

## Ki67/MKI67 Antibody - BSA Free NB110-90592

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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**NB110-90592**

Ki67/MKI67 Antibody - BSA Free

Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS
Target Molecular Weight	359 kDa

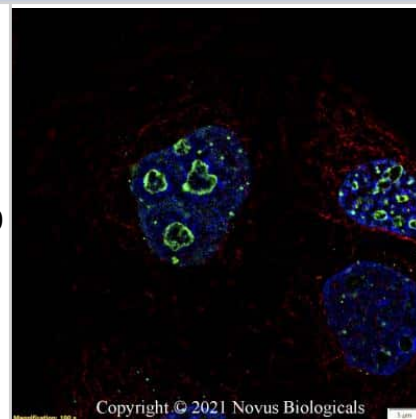
Product Description	
Description	Novus Biologicals Rabbit Ki67/MKI67 Antibody - BSA Free (NB110-90592) is a polyclonal antibody validated for use in IHC, ICC/IF and ChIP. Anti-Ki67/MKI67 Antibody: Cited in 18 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	4288
Gene Symbol	MKI67
Species	Human, Mouse, Zebrafish
Reactivity Notes	Use in Zebrafish reported in scientific literature (PMID:32647136).
Marker	Proliferation Marker
Immunogen	The immunogen for this KI67/MKI67 Antibody was made using a synthetic peptide from the internal region of Human KI67/MKI67, between amino acids 1200-1300 [Uniprot: P46013].

Product Application Details	
Applications	Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Chromatin Immunoprecipitation (ChIP)
Recommended Dilutions	Immunohistochemistry 1:3200, Immunocytochemistry/ Immunofluorescence 1:50 -1:200, Immunohistochemistry-Paraffin 1:3200. Use reported in scientific literature (PMID 24599134), Immunohistochemistry-Frozen reported in scientific literature (PMID 25647012), Chromatin Immunoprecipitation (ChIP)

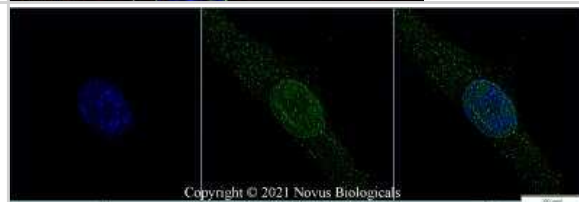


## Images

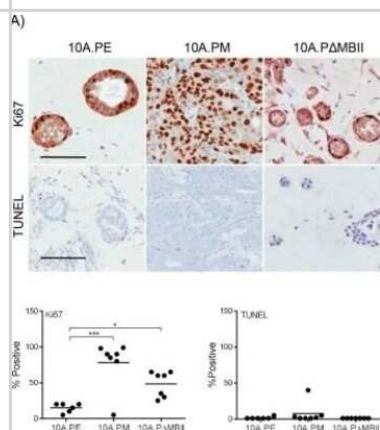
Immunocytochemistry/Immunofluorescence: Ki67/MKI67 Antibody [NB110-90592] - A431 cells were fixed in 4% paraformaldehyde for 10 minutes and permeabilized in 0.5% Triton X-100 in PBS for 5 minutes. The cells were incubated with anti- NB110-90592 at 2 ug/ml overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:1000 dilution for 60 minutes. Alpha tubulin (DM1A) NB100-690 was used as a co-stain at a 1:1000 dilution and detected with an anti-mouse Dylight 550 (Red) at a 1:1000 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 100X objective and digitally deconvolved.



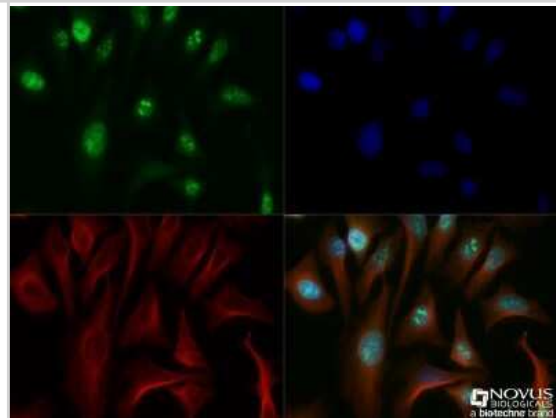
Immunocytochemistry/Immunofluorescence: Ki67/MKI67 Antibody [NB110-90592] - NIH3T3 cells were fixed in 4% paraformaldehyde for 10 minutes and permeabilized in 0.5% Triton X-100 in PBS for 5 minutes. The cells were incubated with anti- NB110-89717 at 2 ug/ml overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:1000 dilution for 60 minutes. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 100X objective and digitally deconvolved.



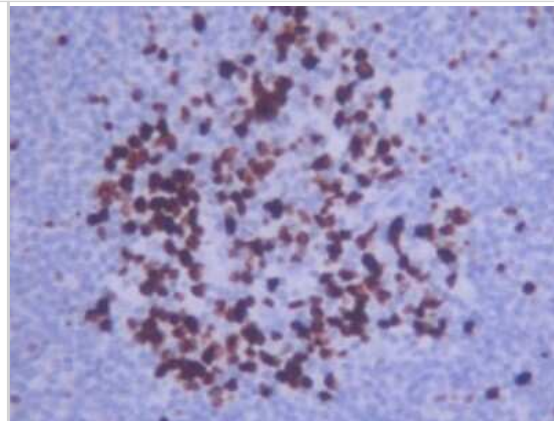
Immunohistochemistry: Ki67/MKI67 Antibody [NB110-90592] - Deregulated MYC transforms breast acini into invasive breast carcinoma in vivo. Tumours harvested in Figure 1C were stained (above) for Ki67/MKI67 and TUNEL and were quantified (below) for the degree of Ki67/MKI67 and TUNEL staining. Individual quantifications per tumour are shown; \* $P \leq 0.05$ , \*\*\* $P \leq 0.001$ , one-way ANOVA with Bonferroni post-test for multiple testing. Scale bar: 100 um. Image collected and cropped by CiteAb from the following publication (<https://dmm.biologists.org/lookup/doi/10.1242/dmm.038083>), licensed under a CC-BY license.



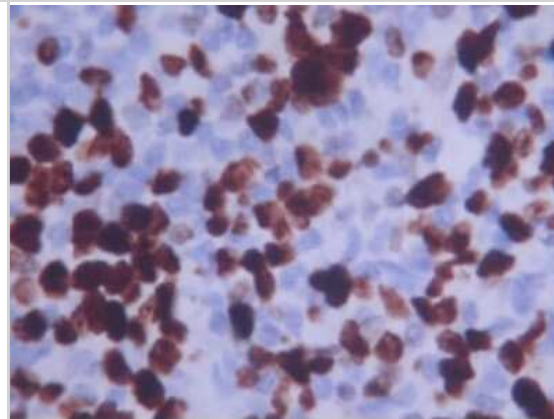
Immunocytochemistry/Immunofluorescence: Ki67/MKI67 Antibody [NB110-90592] - HeLa cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.5% Triton X-100. The cells were incubated with anti-Ki-67/MKI67 (NB110-90592) at a 1:200 dilution overnight at 4C and detected with an anti-rabbit DyLight 488 (Green) at a 1:500 dilution. Alpha tubulin was used as a co-stain at a 1:1000 dilution and detected with an anti-mouse DyLight 550 (Red) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.



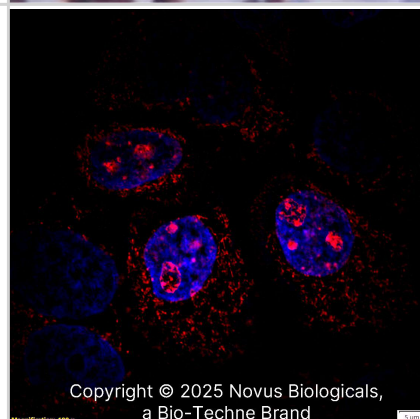
Immunohistochemistry: Ki67/MKI67 Antibody [NB110-90592] - Detection of human lymph node. (20X)



Immunohistochemistry: Ki67/MKI67 Antibody [NB110-90592] - Detection of human lymph node. (40X)



Ki67/MKI67 was detected in immersion fixed A431 human skin carcinoma cell line using Rabbit anti-Ki67/MKI67 Affinity Purified Polyclonal Antibody conjugated to Biotin (Catalog # NB110-90592B) at 2  $\mu\text{g}/\text{mL}$  overnight at 4C. Cells were stained using Streptavidin conjugated to DyLight 550 (red) and counterstained with DAPI (blue). Cells were imaged using a 100X objective and digitally deconvolved.



## Publications

Kato T, Jin CS, Ujiie H et Al. Nanoparticle targeted folate receptor 1-enhanced photodynamic therapy for lung cancer Lung Cancer 2018-06-25 [PMID: 29110850]

Lin P, Lourenco C, Cruickshank J et al. Topoisomerase 1 Inhibition in MYC-Driven Cancer Promotes Aberrant R-Loop Accumulation to Induce Synthetic Lethality Cancer research 2023-11-21 [PMID: 37987734] (IHC-P, Mouse)

Ahmadipour M, Taniguchi D, Duchesneau P Et al. Use of high-rate ventilation results in enhanced recellularization of bio-engineered lung scaffolds Tissue engineering. Part C, Methods 2021-11-30 [PMID: 34847779]

Rehman SK, Haynes J, Collignon E, et al. Colorectal Cancer Cells Enter a Diapause-like DTP State to Survive Chemotherapy Cell 2021-01-07 [PMID: 33417860] (IF/IHC, Human)

Mealiea D, Boudreau E, De Silva N et al. Modeling oncolytic virus dynamics in the tumor microenvironment using zebrafish Cancer Gene Ther. 2020-07-10 [PMID: 32647136] (IHC-P, Zebrafish)

Lourenco C, Kalkat M, Houlahan KE et al. Modelling the MYC-driven normal-to-tumour switch in breast cancer Dis Model Mech 2019-07-26 [PMID: 31350286] (IHC-P, Human)

Lima-Fernandes, E;Murison, A;da Silva Medina, T;Wang, Y;Ma, A;Leung, C;Luciani, GM;Haynes, J;Pollett, A;Zeller, C;Duan, S;Kreso, A;Barsyte-Lovejoy, D;Wouters, BG;Jin, J;Carvalho, DD;Lupien, M;Arrowsmith, CH;O'Brien, CA; Targeting bivalency de-represses Indian Hedgehog and inhibits self-renewal of colorectal cancer-initiating cells Nat Commun 2019-03-29 [PMID: 30926792] (IF/IHC, Human)

Kalkat M, Resetca D, Lourenco C et al. MYC Protein Interactome Profiling Reveals Functionally Distinct Regions that Cooperate to Drive Tumorigenesis. Mol. Cell. 2018-10-30 [PMID: 30415952] (IF/IHC, Human)

Kato T, Jin CS, Lee D et al. Preclinical investigation of folate receptor-targeted nanoparticles for photodynamic therapy of malignant pleural mesothelioma. Int. J. Oncol. 2018-11-01 [PMID: 30226590] (IF/IHC, Human)

Kato T, Lee D, Huang H et al. Personalized siRNA-nanoparticle Systemic Therapy using Metastatic Lymph Node Specimens Obtained with EBUS-TBNA in Lung Cancer. Mol. Cancer Res. 2017-10-09 [PMID: 28993508] (Human)

Ernsting MJ, Hoang B, Lohse I et al. Targeting of metastasis-promoting tumor-associated fibroblasts and modulation of pancreatic tumor-associated stroma with a carboxymethylcellulose-docetaxel nanoparticle. J Control Release. 2015-03-21 [PMID: 25804872] (IF/IHC, Mouse)

Tan Q, Joshua AM, Saggat JK et al. Effect of pantoprazole to enhance activity of docetaxel against human tumour xenografts by inhibiting autophagy Br. J. Cancer. 2015-03-03 [PMID: 25647012] (IHC-Fr, Human)

### Details:

Ki-67/MKI67 antibody used for IHC-Fr on PC3 xenograft cryosections obtained from mice that were subjected or not to 24 hours of treatments with pantoprazole/PTP, docetaxel/DOC or PTP+DOC (docetaxel-treatment after pretreatment with pantoprazole). Ki67 was used as a marker of cell proliferation and the latter was found to be reduced in animals treated with a combination of pantoprazole and docetaxel compared to the ones treated with either drugs alone (Figure 2D).

More publications at <http://www.novusbio.com/NB110-90592>

## Procedures

### Immunohistochemistry Protocol for Ki67 Antibody (NB110-90592)

#### Immunohistochemistry

1. Slice fresh tissues in 3um sections
2. Formaldehyde fixation 50C for 1 hour
3. Dehydrate under 80%, 90%, 90%, 95%, 95%, 100% and 100% ethanol successively under 50C for 1 hour of each concentration
4. Xylene I 40C for 1 hour
5. Xylene II 40C for 1 hour
6. Paraffin I embedding 65 C for 1 hour
7. Paraffin II embedding 65 C for 1 hour
8. Paraffin III embedding 65 C for 1 hour
9. Deparaffinize and rehydrate sections as standard
10. Antigen retrieval using 10mM sodium citrate microwave for 20 minutes
11. Wash and PBS wash as standard
12. Add 100ul primary antibody diluted to 1:3200 separately and incubate at 4C overnight
13. Wash in PBS buffer for 3 times 5 minutes
14. Remove excess PBS buffer and incubate sections with biotinylated secondary antibody, incubate for 30 minutes at 30C
15. Wash in PBS buffer for 3 times 5 minutes
16. Remove excess PBS buffer and incubate sections with ABC at 30C for 30 minutes
17. Wash in PBS buffer for 3 times 5 minutes
18. Develop with DAB
19. Rinse slides in gently running tap water for 10 minutes





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### **Products Related to NB110-90592**

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HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NB110-90592F-0.1ml	Ki67/MKI67 Antibody [FITC]

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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