

# Product Datasheet

## Ki67/MKI67 Antibody - BSA Free NB110-89719

Unit Size: 0.1 ml

Store at 4C. Do not freeze.

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**NB110-89719**

Ki67/MKI67 Antibody - BSA Free

Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C. Do not freeze.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS
Target Molecular Weight	351 kDa

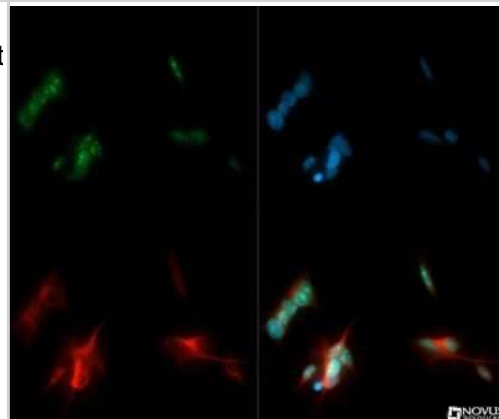
Product Description	
Description	Novus Biologicals Rabbit Ki67/MKI67 Antibody - BSA Free (NB110-89719) is a polyclonal antibody validated for use in IHC, WB, Flow and ICC/IF. Anti-Ki67/MKI67 Antibody: Cited in 27 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	4288
Gene Symbol	MKI67
Species	Human, Mouse, Rat
Reactivity Notes	Rat reactivity reported in scientific literature (PMID: 31286466).
Marker	Proliferation Marker
Immunogen	The immunogen for this KI67/MKI67 Antibody was made using a synthetic peptide from the internal region of Mouse KI67/MKI67, between aminoacids 2000-2050 (2021-2036) Uniprot# E9PVX6.

Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen
Recommended Dilutions	Western Blot reported in scientific literature (PMID 23643677), Flow Cytometry reported in scientific literature (PMID 25733567), Immunohistochemistry 1:100-1:500, Immunocytochemistry/ Immunofluorescence 1:50-1:200, Immunohistochemistry-Paraffin 1:100-1:500, Immunohistochemistry-Frozen reported in scientific literature (PMID 23419702)

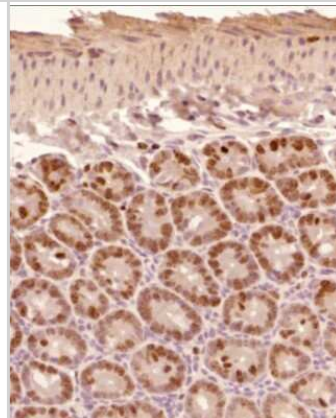


## Images

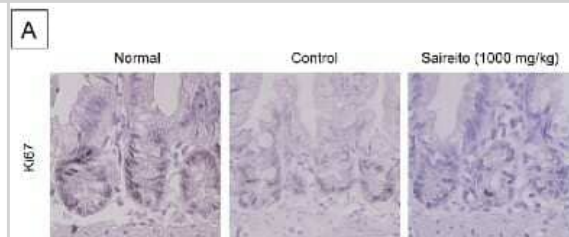
Immunocytochemistry/Immunofluorescence: Ki67/MKI67 Antibody [NB110-89719] - Ki67 antibody was tested in SH-SY5Y cells with DyLight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and Dylight 550 (red).



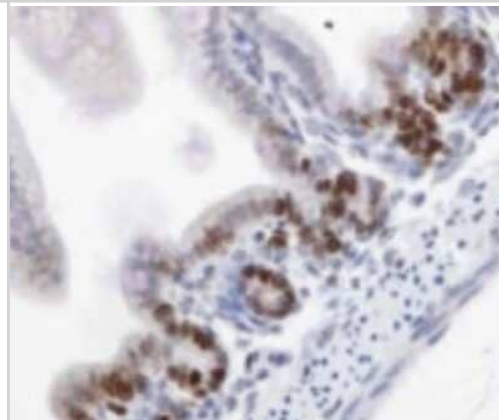
Immunohistochemistry-Paraffin: Ki67/MKI67 Antibody [NB110-89719] - IHC analysis of a formalin fixed paraffin embedded tissue section of mouse intestine using 1:200 dilution of rabbit anti-Ki67 antibody. The staining was developed with HRP labeled anti-rabbit IgG secondary antibody and DAB reagent, and nuclei of cells were counter-stained with hematoxylin. This antibody generated a specific nuclear staining in epithelial cells and the staining was more intense in the cells close to the bases of crypts. Weak to moderate positivity was found at the cytoplasmic level also.



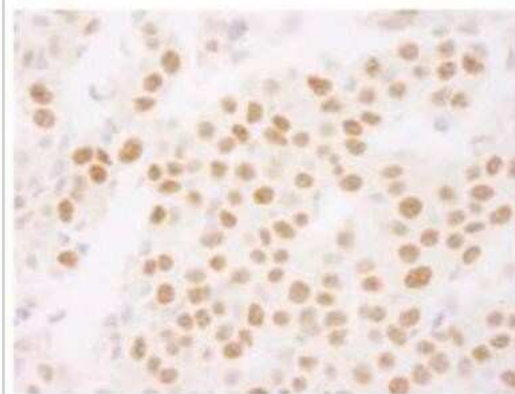
Immunohistochemistry-Paraffin: Ki67/MKI67 Antibody - BSA Free [NB110-89719] - Ki67/MKI67 Antibody [NB110-89719] - Effect of saireito on the suppression of cell proliferation induced by 5-fluorouracil (5-FU) in mouse small intestines. 5-FU (50 mg/kg) was injected i.p. while saireito (1000 mg/kg) was administered p.o. twice, 30 min before and 8 h after 5-FU injection. The jejunum was excised, sectioned, and Ki67 immunostaining was performed. Image collected and cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0116213>), licensed under a CC-BY license.



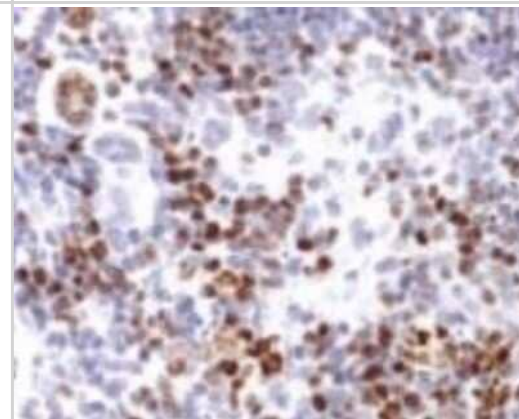
Immunohistochemistry: Ki67/MKI67 Antibody [NB110-89719] - Detection of Ki67 in formalin-fixed paraffin embedded mouse intestine using NB110-89719.



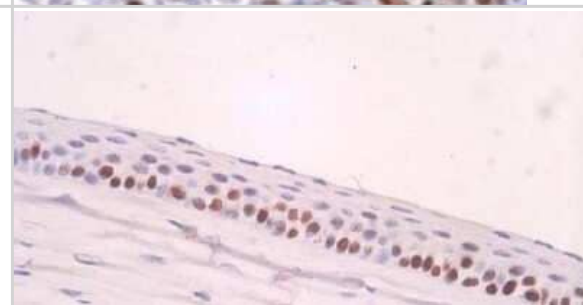
Immunohistochemistry-Paraffin: Ki67/MKI67 Antibody [NB110-89719] - FFPE section of human breast carcinoma. Antibody: Affinity purified rabbit anti-Ki-67 (NB110-89719) used at a dilution of 1:250.



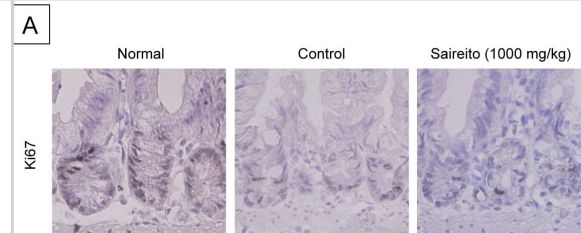
Immunohistochemistry: Ki67/MKI67 Antibody [NB110-89719] - Immunohistochemical analysis of mouse spleen.



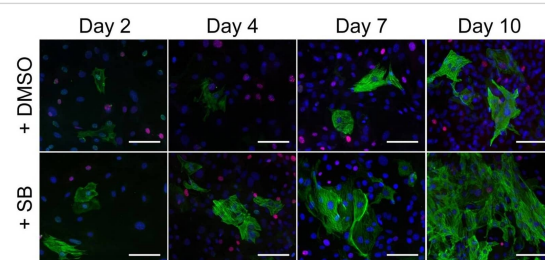
Immunohistochemistry-Paraffin: Ki67/MKI67 Antibody [NB110-89719] - IHC analysis of Ki67 in mouse cornea. Image courtesy of product review by Bo-Yie Chen.



Effect of saireito on the suppression of cell proliferation induced by 5-fluorouracil (5-FU) in mouse small intestines. 5-FU (50 mg/kg) was injected i.p. while saireito (1000 mg/kg) was administered p.o. twice, 30 min before and 8 h after 5-FU injection. The jejunum was excised, sectioned, and Ki67 immunostaining was performed (A). The number of proliferative cells was counted (B). Data are presented as the mean  $\pm$  SEM of 6 mice. #P < 0.05, versus normal (5-FU-untreated).



Immunocytochemistry/ Immunofluorescence: Ki67/MKI67 Antibody - BSA Free [NB110-89719] - The increase in iCM number with SB treatment is not due to increased transgene expression or changes in cell proliferation. Evaluation of gene expression of the transgenes at Day 2 via qPCR is not significantly different between +DMSO (black) control & +SB treatment groups (white, A). Evaluation of overall cell proliferation with Ki67 staining in MEFs with time for +DMSO (black) & +SB treatment groups (grey) (B). A time course evaluation of Troponin T (green) & Ki67 (red) did any dual labeled cells for either the +DMSO (top row) & +SB (bottom row) treated groups (C). Scale bar is 100  $\mu$ M. Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0089678>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

AA Hill, M Kim, DF Zegarra-Ru, LC Chang, KC Norwood, A Assié, WH Wu, MC Renfroe, HW Song, AM Major, BS Samuel, JM Hyser, RS Longman, GE Diehl Acute high fat diet impairs macrophage supported intestinal damage resolution JCI Insight, 2023-02-08;0(0):. 2023-02-08 [PMID: 36538527] (Immunohistochemistry-Frozen, Immunocytochemistry/ Immunofluorescence, Mouse)

Ju-Kyung Jeong, Tak-Heun Kim, Hwajung Choi, Eui-Sic Cho Impaired breakdown of Herwig's epithelial root sheath disturbs tooth root development. Developmental dynamics : an official publication of the American Association of Anatomists 2023-10-18 [PMID: 37850829]

Jo A, Green A, Medina JE et al. Inaugurating High-Throughput Profiling of Extracellular Vesicles for Earlier Ovarian Cancer Detection Advanced science (Weinheim, Baden-Wurttemberg, Germany) 2023-07-23 [PMID: 37485618] (ICC/IF, Human)

Jo A, Green A, Medina JE et al. Profiling extracellular vesicles in circulation enables the early detection of ovarian cancer bioRxiv : the preprint server for biology 2023-01-20 [PMID: 36711872] (ICC/IF, Mouse)

Kanatsu-Shinohara M, Lee J, Miyazaki T et al. Adeno-associated-virus-mediated gene delivery to ovaries restores fertility in congenital infertile mice Cell Reports Medicine [PMID: 35584625]

Hao L, Mao Y, Park J Et al. Repurposing anthelmintic praziquantel to treat psoriasis British journal of pharmacology 2021-08-07 [PMID: 34363611] (IHC-P, Mouse)

Kanatsu-Shinohara M, Chen G, Morimoto H, Shinohara T CD2 is a surface marker for mouse and rat spermatogonial stem cells J. Reprod. Dev. 2020-03-26 [PMID: 32213736] (IF/IHC, Mouse)

Lemons K, Fu Z, Ogura T, Lin W TRPM5-expressing Microvillous Cells Regulate Region-specific Cell Proliferation and Apoptosis During Chemical Exposure Neuroscience 2020-03-26 [PMID: 32224228] (IF/IHC, Mouse)

Wangler S, Peroglio M, Menzel U et al. Mesenchymal Stem Cell Homing Into Intervertebral Discs Enhances the Tie2-positive Progenitor Cell Population, Prevents Cell Death, and Induces a Proliferative Response Spine 2019-12-01 [PMID: 31730570] (IF/IHC, Human)

Quach C, Song Y, Guo H, et al. A truncating mutation in the autophagy gene UVRAG drives inflammation and tumorigenesis in mice Nat Commun 2019-12-12 [PMID: 31831743] (IF/IHC, Mouse)

Hill AA, Kim M, Ruiz DFZ et al. Defective intestinal repair after short-term high fat diet due to loss of efferocytosis bioRxiv 2019-10-02 (ICC/IF, Mouse)

Liberia T, Martin-Lopez E, Meller SJ, Greer CA Sequential maturation of olfactory sensory neurons in the mature olfactory epithelium eNeuro 2019-09-25 [PMID: 31554664] (ICC/IF, Mouse)

More publications at <http://www.novusbio.com/NB110-89719>

## Procedures

### Immunohistochemistry Protocol specific for Ki67 Antibody (NB110-89719)

#### Antigen Unmasking

Bring slides to a boil in 10 mM sodium citrate buffer pH 6.0 then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench top for 30 minutes.

Wash sections in dH<sub>2</sub>O three times for 5 minutes each.

Wash section in wash buffer for 5 minutes.

Block each section with 100-400 ul blocking solution (1X PBST, 5% goat serum) for 1 hour at room temperature.

Remove blocking solution and add 100-400 ul primary antibody diluted in 1X PBST, 5% goat serum to each section.

Incubate overnight at 4C.

Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.

Add 100-400 ul biotinylated secondary antibody, diluted in 1X PBST, 5% goat serum. Incubate 30 minutes at room temperature.

Remove secondary antibody solution and wash sections three times with wash buffer for 5 minutes each.

Add 100-400 ul Streptavidin-HRP reagent to each section and incubate for 30 minutes at room temperature.

Wash sections three times in wash buffer for 5 minutes each.

Add 100-400 ul DAB substrate to each section and monitor staining closely.

As soon as the sections develop, immerse slides in dH<sub>2</sub>O.

Wash sections in dH<sub>2</sub>O two times for 5 minutes each.

Mount coverslips.

### Immunocytochemistry/Immunofluorescence Protocol for Ki67 antibody (NB110-89719)

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and add 10% formalin to the dish. Fix at room temperature for 30 minutes.
2. Remove the formalin and add ice cold methanol. Incubate for 5-10 minutes.
3. Remove methanol and add washing solution (i.e. PBS). Be sure to not let the specimen dry out. Wash three times for 10 minutes.
4. To block nonspecific antibody binding incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
5. Add primary antibody at appropriate dilution and incubate at room temperature from 2 hours to overnight at room temperature.
6. Remove primary antibody and replace with washing solution. Wash three times for 10 minutes.
7. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
8. Remove antibody and replace with wash solution, then wash for 10 minutes. Add Hoechst 33258 to wash solution at 1:25,000 and incubate for 10 minutes. Wash a third time for 10 minutes.
9. Cells can be viewed directly after washing. The plates can also be stored in PBS containing Azide covered in Parafilm (TM). Cells can also be cover-slipped using Fluoromount, with appropriate sealing.

\*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.



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### **Products Related to NB110-89719**

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NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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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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