APC anti-human Ki-67 Antibody

Catalog# / Size	350513 / 25 tests 350514 / 100 tests
Clone	Ki-67
Other Names	Antigen Ki-67
Isotype	Mouse IgG1, κ
Description	Antigen Ki-67 is a nuclear protein expressed as two isoforms with molecular weights of 395 and 345 kD. Both isoforms contain one forkhead-associated domain and 16 concatenated "Ki-67 repeats," each containing the epitope recognized by the mAb Ki-67. The antigen Ki-67 interacts with Hklp2, hNIFK, and chromobox protein homolog 1, 3, and 5. Ki-67 is required for cell proliferation and its expression is restricted to the phases G_1, S, G_2, and M of the cell cycle. This characteristic makes Ki-67 an excellent marker for proliferating cells and is commonly used as one of the prognostic factors in cancer studies. Ki-67 has also been used to study myocyte proliferation after myocardial infarction as well as lymphocyte proliferation during infection, and has been used in neurons of patients with different neuropathologies.

Product Details

Reactivity	Human, **Cross-Reactivity:** Bovine
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Nuclei of the Hodgkin lymphoma cell line L428
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with APC under optimal conditions.
Concentration	Lot-specific (please contact technical support for concentration and total µg amount, or use our Lookup tool if you have a lot number.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. **Do not freeze.**
Application	ICFC - *Quality tested*
Recommended Usage	Each lot of this antibody is quality control tested by our Ki-67 staining protocol below. For flow cytometric staining, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.
Excitation Laser	Red Laser (633 nm)
Application Notes	Additional reported applications (for the relevant formats) include: immunohistochemical staining of frozen tissue sections[1], Western blotting[3], and immunofluorescence microscopy[4]. **Ki-67 Staining Protocol:** 1. Prepare 70% ethanol and chill at -20°C. 2. Prepare target cells of interest and wash 2X with PBS by centrifuge at 350x*g* for 5 minutes. 3. Discard supernatant and loosen the cell pellet by vortexing. 4. Add 3 ml cold 70% ethanol drop by drop to the cell pellet while vortexing. 5. Continue vortexing for 30 seconds and then incubate at -20°C for 1 hour. 6. Wash 3X with BioLegend Cell Staining Buffer and then resuspend the cells at the concentration of 0.5-10 x 10^6/ml. 7. Mix 100 µl cell suspension with proper fluorochrome-conjugated Ki-67 antibody and incubate at room temperature in the dark for 30 minutes. 8. Wash 2X with BioLegend Cell Staining Buffer and then resuspend in 0.5 ml cell staining buffer for flow cytometric analysis.
Application References **(PubMed link indicates BioLegend citation)**	1. Gerdes J, et al. 1983. Int. J. Cancer 31:13. (IHC) 2. Gerdes J, et al. 1984. J. Immunol. 133:1710. (ICFC) 3. Schluter C, et al. 1993 J. Cell Biol. 123:513. (IHC, WB) 4. Bading H, et al. 1989 Exp. Cell. Res. 185:50. (IF) 5. Guha P, et al. 2013. PNAS. 110:5052. PubMed

Product Citations

1. Maine C, et al. 2014. J Immunol. 192:1415. PubMed
2. Nodomi S, et al. 2016. Oncogene. 10.1038/onc.2016.72. PubMed
3. Yumoto K, et al. 2016. Sci Rep. 6:36520. PubMed
4. Wu K, et al. 2018. Oncol Rep. 40:3523. PubMed

RRID

AB_10959326 (BioLegend Cat. No. 350513)
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Antigen Details

Structure

Two isoforms with molecular weights of 395 and 345 kD, one forkhead-associated domain, 16 concatenated Ki-67 repeats, located in nucleus

Distribution

Expressed in the phases G_1, S, G_2, and M of the cell cycle

Function

Required for cell proliferation

Interaction

Chromobox protein homolog 1, 3 and 5, Hklp2, and hNIFK

Biology Area

Cell Biology, Cell Cycle/DNA Replication, DNA Repair/Replication

Molecular Family

Nuclear Markers

Antigen References

1. Byeon IJ, et al. 2005. Nat. Struct. Mol. Biol. 12:987.
2. Yerushalmi R, et al. 2010. Lancet. Oncol. 11:174.
3. Beltrami AP, et al. 2001. N. Engl. J. Med. 344:1750.
4. Sachsenberg N, et al. 1998. J. Exp. Med. 187:1295.
5. Nagy Z, et al. 1997. Acta. Neuropathol. 93:294.

Gene ID

4288

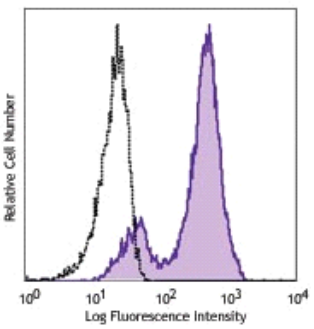
Related Protocols

Ki-67 Flow Cytometry Staining Protocol

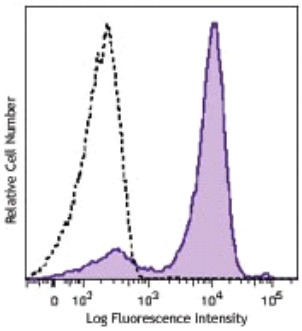
Other Formats

Brilliant Violet 510™ anti-human Ki-67, Purified anti-human Ki-67, PE anti-human Ki-67, Brilliant Violet 421™ anti-human Ki-67, Alexa Fluor® 488 anti-human Ki-67, Alexa Fluor® 647 anti-human Ki-67, Pacific Blue™ anti-human Ki-67, Brilliant Violet 711™ anti-human Ki-67, PerCP/Cyanine5.5 anti-human Ki-67, Brilliant Violet 605™ anti-human Ki-67, PE/Cyanine7 anti-human Ki-67, Purified anti-human Ki-67 (Maxpar® Ready), Alexa Fluor® 594 anti-human Ki-67, Alexa Fluor® 700 anti-human Ki-67, PE/Dazzle™ 594 anti-human Ki-67

Product Data



PHA-activated human peripheral blood lymphocytes (3 days) were fixed and permeabilized with 70% ethanol, and then stained with Ki-67 APC (filled histogram) or mouse IgG1, κ APC isotype control (open histogram).



3-day PHA-stimulated human peripheral blood lymphocytes were fixed and permeabilized with BioLegend FOXP3 buffer set, then stained with Ki-67 APC (filled histogram) or mouse IgG1, κ APC isotype control (open histogram).

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