Brilliant Violet 605™ anti-human Ki-67 Antibody

Catalog# / Size	350521 / 25 tests 350522 / 100 tests
Clone	Ki-67
Regulatory Status	RUO
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

Verified Reactivity	Human
Reported Reactivity	Cow
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 BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 605™ under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
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. Brilliant Violet 605™ excites at 405 nm and emits at 603 nm. The bandpass filter 610/20 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. **Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.** Refer to your instrument manual or manufacturer for support. Brilliant Violet 605™ is a trademark of Sirigen Group Ltd. Learn more about Brilliant Violet™. This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.
Excitation Laser	Violet Laser (405 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. Li R, *et al.* 2020. Br J Cancer. 122:1525. PubMed 2. Huanosta-Murillo E, *et al.* 2021. Front Immunol. 12:668369. PubMed 3. Ligorio M, *et al.* 2019. Cell. 178:160. PubMed 4. Caduff N, *et al.* 2021. Cell Reports. 35(5):109056. PubMed 5. Pagel J, *et al.* 2020. Front Immunol. 11:565257. PubMed 6. Oh DY, *et al.* 2020. Cell. 181:1612. PubMed 7. Den Braanker H, *et al.* 2021. Front Immunol. 12:768113. PubMed 8. Heyde A, *et al.* 2021. Cell. 184(5):1348-1361.e22. PubMed
RRID	AB_2562308 (BioLegend Cat. No. 350521) AB_2563863 (BioLegend Cat. No. 350522)

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

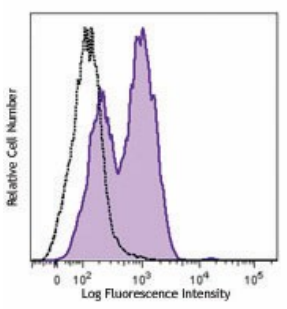
Ki-67 Flow Cytometry Staining Protocol

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, APC 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, Brilliant Violet 750™ 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 anti-human Ki-67 (clone Ki-67) Brilliant Violet 605™ (filled histogram) or mouse IgG1, κ Brilliant Violet 605™ isotype control (open histogram).

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