Purified anti-human Ki-67 (Maxpar® Ready) Antibody

Catalog# / Size	350523 / 100 µg
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 EDTA.
Preparation	The antibody was purified by affinity chromatography.
Concentration	1.0 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	ICFC - Quality tested CyTOF® - Verified
Recommended Usage	This product is suitable for use with the Maxpar® Metal Labeling Kits. For metal labeling using Maxpar® Ready antibodies, proceed directly to the step to Partially Reduce the Antibody by adding 100 µl of Maxpar® Ready antibody to 100 µl of 4 mM TCEP-R in a 50 kDa filter and continue with the protocol. Always refer to the latest version of Maxpar® User Guide when conjugating Maxpar® Ready antibodies.
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.

Additional Product Notes	Maxpar® is a registered trademark of Standard BioTools Inc.
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. Gadalla R, *et al.* 2022. STAR Protoc. 3:101643. PubMed 2. Roussel M, *et al.* 2021. Cell Reports Medicine. 2(6):100291. PubMed 3. Senosain MF, *et al.* 2021. Sci Rep. 11:14424. PubMed 4. NULL, *et al.* 2022. Cell. 185:916. PubMed 5. Loo Yau H, *et al.* 2021. Molecular Cell. 81(7):1469-1483.e8. PubMed
RRID	AB_2562838 (BioLegend Cat. No. 350523)

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

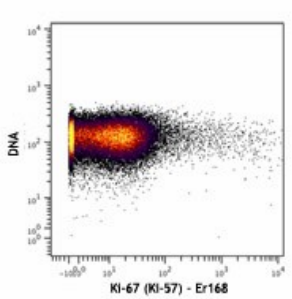
Related Protocols

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



Human PBMCs were incubated for 3 days in media alone (left) or with PHA (right). Cells were then fixed, permeabilized, and stained with 168Er-anti-Ki-67 (Ki-67). Data provided by DVS Sciences.

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