

Brilliant Violet 421™ anti-mouse Ly-6G/Ly-6C (Gr-1) Antibody

Catalog# / Size	108433 / 125 µL 108445 / 50 µg 108434 / 500 µL
Clone	RB6-8C5
Regulatory Status	RUO
Other Names	Gr-1
Isotype	Rat IgG2b, κ
Description	Gr-1 is a 21-25 kD protein also known as Ly-6G/Ly-6C. This myeloid differentiation antigen is a glycosylphosphatidylinositol (GPI)-linked protein expressed on granulocytes and macrophages. In bone marrow, the expression levels of Gr-1 directly correlate with granulocyte differentiation and maturation; Gr-1 is also transiently expressed on bone marrow cells in the monocyte lineage. Immature Myeloid Gr-1+ cells play a role in the development of antitumor immunity.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Raised against granulocytes of mouse origin
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 421™ under optimal conditions.
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	FC - Quality tested
Recommended Usage	<p>Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining using the µl size, 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. For flow cytometric staining using the µg size, the suggested use of this reagent is ≤ 0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd.</p> <p>Learn more about Brilliant Violet™.</p> <p>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.</p>
Excitation Laser	Violet Laser (405 nm)
Application Notes	<p>Clone RB6-8C5 binds with high affinity to mouse Ly-6G molecules and to a lower extent to Ly-6C¹⁹. Clone RB6-8C5 impairs the binding of anti-mouse Ly-6G clone 1A8¹⁹. However, clone RB6-8C5 is able to stain in the presence of anti-mouse Ly-6C clone HK1.4²⁰.</p> <p>The RB6-8C5 antibody has been used to identify peripheral blood neutrophils and deplete granulocytes <i>in vivo</i>. Additional reported applications (for relevant formats of this clone) include: <i>in vitro</i> complement-mediated cytotoxicity², <i>in vivo</i> depletion^{3-5,9}, immunoprecipitation¹,</p>

immunohistochemical staining⁶ (including paraffin-embedded sections^{9,16,33-35}, acetone-fixed frozen sections¹¹ and zinc-fixed sections¹⁹), and Western blotting⁷. RB6-8C5 is not suitable for depletion of hepatic myeloid derived suppressor cells (MDSCs)²⁰.

Special Note: For *in vivo* studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 108436).

Application References

1. Fleming TJ, *et al.* 1993. *J. Immunol.* 151:2399. (IP)
2. Brummer E, *et al.* 1984. *J. Leukocyte Biol.* 36:505. (CMCD)
3. Stoppacciaro A, *et al.* 1993. *J. Exp. Med.* 178:151. (Deplete)
4. Tumpey TM, *et al.* 1996. *J. Virol.* 70:898. (Deplete)
5. Czuprynski CJ, *et al.* 1994. *J. Immunol.* 152:1836. (Deplete)
6. Nitta H, *et al.* 1997. *Cell Vision* 4:73. (IHC)
7. Jutila MA, *et al.* 1988. *Eur. J. Immunol.* 18:1819. (WB)
8. Engwerda CR, *et al.* 2004. *Am. J. Pathol.* 165:2123.
9. Brown CR, *et al.* 2004. *Infect. Immun.* 72:4956. (Deplete, IHC)
10. Andoniou CE, *et al.* 2005. *Nature Immunology* 6:1011. (FC) [PubMed](#)
11. Li M, *et al.* 2006. *P. Natl. Acad. Sci USA* 103:11736. (IHC)
12. Dzhagalov I, *et al.* 2007. *Blood* 109:1620. (FC) [PubMed](#)
13. Fazilleau N, *et al.* 2007. *Nature Immunol.* 8:753. (FC) [PubMed](#)
14. Heuser M, *et al.* 2007. *Blood* 110:1639. (FC) [PubMed](#)
15. Wang T, *et al.* 2007. *Infect. Immun.* 75:1144. (IHC)
16. Bosio CM, *et al.* 2007. *J. Immunol.* 178:4538. (IHC)
17. Boehme SA, *et al.* 2009. *Int. Immunol.* 21:81. (IHC)
18. Piao Y, *et al.* 2012. *Neuro Oncol.* 14:1379. [PubMed](#)
19. Ribechini E, *et al.* 2009. *Eur. J. Immunol.* 39:3538.
20. Ma C, *et al.* 2012. *J. Leukoc. Biol.* 92:1199.
21. Li J, *et al.* 2012. *Arthritis Rheum.* 64:1098. [PubMed](#)
22. Fan Q, *et al.* 2014. *Cancer Res.* 74:471. [PubMed](#)
23. Korrer MJ, *et al.* 2014. *PLoS One.* 9:91370. [PubMed](#)
24. Morshed M, *et al.* 2014. *J Immunol.* 192:5314. [PubMed](#)
25. Collins C, *et al.* 2014. *PNAS.* 111:9899. [PubMed](#)
26. Madireddi S, *et al.* 2014. *J Exp Med.* 211:1433. [PubMed](#)
27. Bianchi G, *et al.* 2014. *Cell Death Dis.* 5:1135. [PubMed](#)
28. Guo H, *et al.* 2014. *J Leukoc Biol.* 96:419. [PubMed](#)
29. Roderick JE, *et al.* 2014. *PNAS.* 111:14436. [PubMed](#)
30. Distel E, *et al.* 2014. *Circ Res.* 115:759. [PubMed](#)
31. Iwai H, *et al.* 2015. *Tuberculosis.* 95:246. [PubMed](#)
32. Charmsaz S, *et al.* 2015. *PLoS One.* 10:130692. [PubMed](#)
33. Whiteland J, *et al.* 1994 *J Histochem Cytochem* 43:3 (IHC-P)
34. Brown C, *et al.* 2003 *J Immunology* 171:2 (IHC-P)
35. Obregon-Henao A, *et al.* PLoS One 8:11 (IHC-P)

Product Citations

1. Grigsby SM, *et al.* 2021. *Cancers (Basel).* 13:. [PubMed](#)
2. Yamin R, *et al.* 2021. *Nature.* 599:465. [PubMed](#)
3. Yamauchi T *et al.* 2018. *Cancer cell.* 33(3):386-400 . [PubMed](#)
4. Wong E, *et al.* 2019. *Cell Rep.* 29:3047. [PubMed](#)
5. Zong L, *et al.* 2021. *NPJ Aging Mech Dis.* 7:25. [PubMed](#)
6. Papafragkos I, *et al.* 2022. *Front Immunol.* 13:889075. [PubMed](#)
7. Rogawski DS, *et al.* 2021. *Nat Commun.* 12:2792. [PubMed](#)
8. Swarnkar G, *et al.* 2016. *Sci Rep.* 6:29896. [PubMed](#)
9. Chen X *et al.* 2017. *Cell stem cell.* 21(6):747-760 . [PubMed](#)
10. Anstine L, *et al.* 2017. *J Am Heart Assoc.* 10.1161/JAHA.117.007097. [PubMed](#)
11. Liu T, *et al.* 2022. *Front Immunol.* 13:901349. [PubMed](#)
12. Stotesbury C, *et al.* 2020. *J Immunol.* 204:1582. [PubMed](#)
13. Alikhanyan K, *et al.* 2020. *Immun Inflamm Dis.* 8:181. [PubMed](#)
14. Wei Z, *et al.* 2021. *Nat Commun.* 0.805555556. [PubMed](#)
15. Kalafati L, *et al.* 2020. *Cell.* 183:771. [PubMed](#)
16. Liu W, *et al.* 2022. *J Clin Invest.* .: [PubMed](#)
17. Heil J, *et al.* 2021. *Nat Commun.* 12:6963. [PubMed](#)
18. Mohrin M, *et al.* 2021. *Aging Cell.* 20:e13313. [PubMed](#)
19. Zhao Y, *et al.* 2020. *Front Immunol.* 2.572222222. [PubMed](#)
20. Jolly A, *et al.* 2022. *Cell Rep Methods.* 2:100315. [PubMed](#)
21. Lau P, *et al.* 2022. *Cell Mol Immunol.* .: [PubMed](#)

RRID

AB_10900232 (BioLegend Cat. No. 108433)
AB_2562903 (BioLegend Cat. No. 108445)
AB_2562219 (BioLegend Cat. No. 108434)

Antigen Details

Structure	21-25 kD
Distribution	Granulocytes, monocytes

Cell Type	Granulocytes, Monocytes, Neutrophils
Biology Area	Immunology, Innate Immunity
Antigen References	1. Fleming TJ, <i>et al.</i> 1993. <i>J. Immunol.</i> 151:2399. 2. Jutila MA, <i>et al.</i> 1988. <i>Eur. J. Immunol.</i> 18:1819. 3. Goni O, <i>et al.</i> 2002. <i>Int. Immunol.</i> 14:1125.
Gene ID	17067 546644

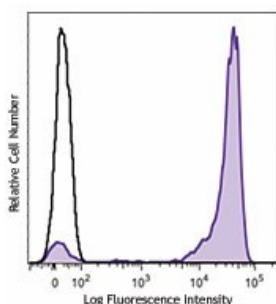
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-mouse Ly-6G/Ly-6C (Gr-1), Biotin anti-mouse Ly-6G/Ly-6C (Gr-1), FITC anti-mouse Ly-6G/Ly-6C (Gr-1), PE anti-mouse Ly-6G/Ly-6C (Gr-1), PE/Cyanine5 anti-mouse Ly-6G/Ly-6C (Gr-1), Purified anti-mouse Ly-6G/Ly-6C (Gr-1), PE/Cyanine7 anti-mouse Ly-6G/Ly-6C (Gr-1), Alexa Fluor® 488 anti-mouse Ly-6G/Ly-6C (Gr-1), Alexa Fluor® 647 anti-mouse Ly-6G/Ly-6C (Gr-1), Alexa Fluor® 700 anti-mouse Ly-6G/Ly-6C (Gr-1), Brilliant Violet 711™ anti-mouse Ly-6G/Ly-6C (Gr-1), APC/Cyanine7 anti-mouse Ly-6G/Ly-6C (Gr-1), Pacific Blue™ anti-mouse Ly-6G/Ly-6C (Gr-1), PerCP/Cyanine5.5 anti-mouse Ly-6G/Ly-6C (Gr-1), PerCP anti-mouse Ly-6G/Ly-6C (Gr-1), Brilliant Violet 421™ anti-mouse Ly-6G/Ly-6C (Gr-1), Brilliant Violet 570™ anti-mouse Ly-6G/Ly-6C (Gr-1), Ultra-LEAF™ Purified anti-mouse Ly-6G/Ly-6C (Gr-1), Brilliant Violet 510™ anti-mouse Ly-6G/Ly-6C (Gr-1), Brilliant Violet 605™ anti-mouse Ly-6G/Ly-6C (Gr-1), Brilliant Violet 650™ anti-mouse Ly-6G/Ly-6C (Gr-1), Alexa Fluor® 594 anti-mouse Ly-6G/Ly-6C (Gr-1), Purified anti-mouse Ly-6G/Ly-6C (Gr-1) (Maxpar® Ready), PE/Dazzle™ 594 anti-mouse Ly-6G/Ly-6C (Gr-1), APC/Fire™ 750 anti-mouse Ly-6G/Ly-6C (Gr-1), TotalSeq™-A0116 anti-mouse Ly-6G/Ly-6C (Gr-1), TotalSeq™-C0116 anti-mouse Ly-6G/Ly-6C (Gr-1), TotalSeq™-B0116 anti-mouse Ly-6G/Ly-6C (Gr-1), Spark Blue™ 550 anti-mouse Ly-6G/Ly-6C (Gr-1), APC/Fire™ 810 anti-mouse Ly-6G/Ly-6C (Gr-1), Spark Violet™ 423 anti-mouse Ly-6G/Ly-6C (GR-1) Antibody, Spark UV™ 387 anti-mouse Ly-6G/Ly-6C (GR-1)

Product Data



C57BL/6 mouse bone marrow cells were stained with Ly-6G/Ly-6C (clone RB6-8C5) Brilliant Violet 421™ (filled histogram) or rat IgG2b, κ Brilliant Violet 421™ isotype control (open histogram). Data shown was gated on myeloid cell population.

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587