

Pacific Blue™ anti-human/mouse Granzyme B Antibody

Catalog# / Size	515407 / 25 tests 515408 / 100 tests
Clone	GB11
Regulatory Status	RUO
Other Names	Granzyme-2, serine protease B, CCP1, Asp-ase, CTLA-1
Isotype	Mouse IgG1, κ
Description	Granzyme B is a 32 kD serine protease, also known as granzyme-2, serine protease B, CCP1, Asp-ase, and CTLA-1. Granzyme B is abundantly stored in the granules of cytotoxic T lymphocytes and NK cells. Low level of expression has been reported in granulocytes, B cells, and activated dendritic cells. Granzyme B is crucial for rapid induction of cell death and apoptosis through interaction with mannose-6-phosphate receptor.

Product Details

Verified Reactivity	Human, Mouse
Reported Reactivity	Rat
Antibody Type	Monoclonal
Host Species	Mouse
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 Pacific Blue™ 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	<p>Each lot of this antibody is quality control tested by intracellular immunofluorescent staining with flow cytometric analysis. 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.</p> <p>* Pacific Blue™ has a maximum emission of 455 nm when it is excited at 405 nm. Prior to using Pacific Blue™ conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.</p> <p>Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.</p> <p>View full statement regarding label licenses</p>
Excitation Laser	Violet Laser (405 nm)
Application References	<ol style="list-style-type: none">1. Wever PC, <i>et al.</i> 1998. <i>Immunology</i>. 93:3832. Arens R, <i>et al.</i> 2004. <i>J. Exp. Med.</i> 199:15953. Lima M, <i>et al.</i> 2003. <i>Am. J. Pathol.</i> 163:7634. Wiede F, <i>et al.</i> 2014. <i>J Autoimmun.</i> 53:105. PubMed5. Baker GF, <i>et al.</i> 2014. <i>Cancer Res.</i> 74:5079. PubMed6. Nacer A, <i>et al.</i> 2014. <i>PLoS Pathog.</i> 10:1004528. PubMed7. Sharma SK, <i>et al.</i> 2015. <i>J Immunol.</i> 194:5529. PubMed
Product Citations	<ol style="list-style-type: none">1. Moderzynski K, <i>et al.</i> 2016. <i>PLoS Negl Trop Dis.</i> . PubMed2. Harsha Krovi S, <i>et al.</i> 2020. <i>Nat Commun.</i> 4.790277778. PubMed

3. Chan LC, *et al.* 2019. *J Clin Invest.* 129:3324. [PubMed](#)
4. Wang L, *et al.* 2019. *Cell Rep.* 29:1848. [PubMed](#)
5. Xu W *et al.* 2019. *Immunity.* 50(4):1054-1068 . [PubMed](#)
6. Remy-Ziller C, *et al.* 2017. *Hum Vaccin Immunother.* 10.1080/21645515.2017.1373921. [PubMed](#)
7. Marquardt I, *et al.* 2022. *Front Microbiol.* 12:752549. [PubMed](#)
8. Boal-Carvalho I, *et al.* 2020. *EMBO Rep.* 21:e50421. [PubMed](#)
9. Cheng L, *et al.* 2021. *Cancer Immunol Immunother.* Online ahead of print. [PubMed](#)
10. Liang S, *et al.* 2022. *Acta Pharm Sin B.* 12:2494. [PubMed](#)
11. Myers JA, *et al.* 2022. *JCI Insight.* .: [PubMed](#)
12. Böttcher JP, *et al.* 2018. *Cell.* 172:1022. [PubMed](#)
13. Tan X, *et al.* 2021. *Front Oncol.* 11:768222. [PubMed](#)
14. Narasimhan PB, *et al.* 2018. *PLoS Negl Trop Dis.* 12:e0006404. [PubMed](#)
15. Reyes RM, *et al.* 2021. *Oncoimmunology.* 10:2006529. [PubMed](#)
16. Verma A, *et al.* 2021. *Cell Rep.* 37:109942. [PubMed](#)
17. Ma X, *et al.* 2021. *Cell Metabolism.* 33(5):1001-1012.e5. [PubMed](#)
18. Snell LM, *et al.* 2018. *Immunity.* 49:678. [PubMed](#)
19. Khan A, *et al.* 2015. *J Virol.* 89: 6619 - 6632. [PubMed](#)
20. Moderzynski K, *et al.* 2017. *PLoS Negl Trop Dis.* 11(2):e0005404. [PubMed](#)
21. Fan Z, *et al.* 2020. *EMBO Mol Med.* 12:e11571. [PubMed](#)
22. Ringel AE, *et al.* 2020. *Cell.* 183(7):1848-1866.e26. [PubMed](#)
23. Barsoumian HB, *et al.* 2020. *J Immunother Cancer.* 8:00. [PubMed](#)
24. Ren Y, *et al.* 2022. *J Immunother Cancer.* 10:. [PubMed](#)
25. Stotesbury C, *et al.* 2020. *J Immunol.* 204:1582. [PubMed](#)
26. Li C, *et al.* 2020. *Immunity.* 52(1):201-202. [PubMed](#)
27. OConnor RA, *et al.* 2021. *Oncoimmunology.* 10(1):1940675. [PubMed](#)
28. Ni J, *et al.* 2020. *Immunity.* 52(6):1075-1087.e8. [PubMed](#)
29. LM S, *et al.* 2016. *Cell Rep.* 16(12): 3286-96. [PubMed](#)
30. Melo-Silva CR, *et al.* 2021. *PLOS Pathogens.* 17(5):e1009593. [PubMed](#)
31. Koelwyn GJ, *et al.* 2020. *Nat Med.* 1452:26. [PubMed](#)
32. Di Mitri D, *et al.* 2019. *Cell Rep.* 28:2156. [PubMed](#)
33. Toshiro Hirai *et al.* 2019. *Immunity.* 50(5):1249-1261 . [PubMed](#)
34. Burel J, *et al.* 2016. *PLoS Negl Trop Dis.* 10:e0005031. [PubMed](#)
35. Younes AI, *et al.* 2021. *Transl Oncol.* 14:100983. [PubMed](#)
36. Jiang L, *et al.* 2020. *Cell.* 183(5):1219-1233.e18. [PubMed](#)
37. Li E, *et al.* 2021. *Front Immunol.* 12:667177. [PubMed](#)
38. Georg P, *et al.* 2022. *Cell.* 185:493. [PubMed](#)
39. Si J, *et al.* 2020. *Cancer Cell.* 38(4):551-566.e11. [PubMed](#)
40. Pahl JHW, *et al.* 2018. *Cancer Immunol Res.* 0.609027778. [PubMed](#)
41. Wells AC *et al.* 2017. *eLife.* 6 pii: e26398. [PubMed](#)
42. Spolski R *et al.* 2019. *Elife.* 8 pii: e45501. [PubMed](#)
43. Pi J, *et al.* 2022. *J Nanobiotechnology.* 20:36. [PubMed](#)
44. Dai X, *et al.* 2021. *Molecular Cell.* 81(11):2317-2331.e6. [PubMed](#)
45. Glodde N *et al.* 2017. *Immunity.* 47(4):789-802 . [PubMed](#)
46. Peterfalvi A, *et al.* 2021. *Int J Environ Res Public Health.* 18:. [PubMed](#)
47. Laczko D, *et al.* 2020. *Immunity.* 53:724. [PubMed](#)
48. Wolf Y, *et al.* 2019. *Cell.* 179:219. [PubMed](#)
49. Kuranda K, *et al.* 2018. *J Clin Invest.* 128:5267. [PubMed](#)
50. Yang X, *et al.* 2021. *Sci Rep.* 11:13482. [PubMed](#)

RRID AB_2562195 (BioLegend Cat. No. 515407)
 AB_2562196 (BioLegend Cat. No. 515408)

Antigen Details

Structure	32 kD serine protease
Distribution	Cytotoxic T-cells and NK cells, low on granulocytes, B cells and activated dendritic cells
Function	Induction of cell death and apoptosis
Ligand/Receptor	Mannose-6-phosphate receptor
Cell Type	B cells, Dendritic cells, NK cells, T cells
Biology Area	Cell Biology, Immunology, Innate Immunity, Neuroscience
Molecular Family	Enzymes and Regulators, Proteases
Antigen References	<ol style="list-style-type: none"> 1. Estebanez-Perpina E, <i>et al.</i> 2000. <i>Biol Chem.</i> 381:1203 2. Griffiths GM. And S. Isaaz, <i>et al.</i> 1993. <i>J. Cell Biol.</i> 120:885 3. Spaeny-Dekking EH, <i>et al.</i> 1998. <i>J. Immunol.</i> 160:3610 4. Wagner C, <i>et al.</i> 2008. <i>Mol. Immunol.</i> 45:1761
Gene ID	3002 14939

Related Protocols

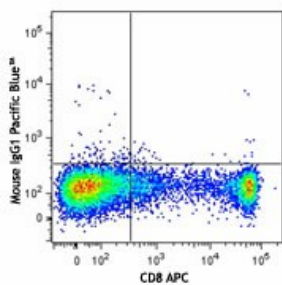
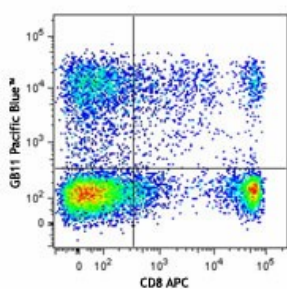
[Surface and Intracellular Cytokine Staining for Flow Cytometry - Video](#)

[Intracellular Flow Cytometry Staining Protocol](#)

Other Formats

FITC anti-human/mouse Granzyme B, Alexa Fluor® 647 anti-human/mouse Granzyme B, Pacific Blue™ anti-human/mouse Granzyme B

Product Data



Human peripheral blood lymphocytes were surface stained with CD8 APC and then intracellularly stained with Granzyme B (clone GB11) Pacific Blue™ (top) or mouse IgG1 Pacific Blue™ isotype control (bottom).

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