

APC/Cyanine7 anti-human CD16 Antibody

Catalog# / Size	302017 / 25 tests 302018 / 100 tests
Clone	3G8
Regulatory Status	RUO
Workshop	V NK80
Other Names	FcγRIII, Fc gamma receptor, Fc gamma receptor 3
Isotype	Mouse IgG1, κ
Description	CD16 is known as low affinity IgG receptor III (FcγRIII). It is expressed as two distinct forms (CD16a and CD16b). CD16a (FcγRIIIA) is a 50-65 kD polypeptide-anchored transmembrane protein. It is expressed on the surface of NK cells, activated monocytes, macrophages, and placental trophoblasts in humans. CD16b (FcγRIIIB) is a 48 kD glycosylphosphatidylinositol (GPI)-anchored protein. Its extracellular domain is over 95% homologous to that of CD16a, and it is expressed specifically on neutrophils. CD16 binds aggregated IgG or IgG-antigen complex which functions in NK cell activation, phagocytosis, and antibody-dependent cell-mediated cytotoxicity (ADCC).

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	African Green, Baboon, Capuchin Monkey, Chimpanzee, Common Marmoset, Pigtailed Macaque, Sooty Mangabey, Squirrel Monkey
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Human PMN cells
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 APC/Cyanine7 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	FC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by 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.
Excitation Laser	Red Laser (633 nm)
Application Notes	<p>The 3G8 antibody clone blocks neutrophil phagocytosis and stimulates NK cell proliferation. It has been reported that this clone interacts with the FcγRIIIa and FcγRIIIb receptors causing neutrophil activation and aggregation¹⁸. Due to this phenomenon staining in whole blood may cause a reduction in the number of granulocytes or alter their scatter profile.</p> <p>Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue sections⁶, immunoprecipitation³, stimulation of NK cell proliferation⁴, blocking of phagocytosis⁵, and blocking of immunoglobulin binding to FcγRIII^{7,8}. The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for functional assays (Cat. No. 302049, 302050, 302057, 302058).</p>
Additional Product Notes	BioLegend is in the process of converting the name APC/Cy7 to APC/Cyanine7. The dye

molecule remains the same, so you should expect the same quality and performance from our APC/Cyanine7 products. Please contact [Technical Service](#) if you have any questions.

Application References

(PubMed link indicates BioLegend citation)

1. Knapp W, *et al.* Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York.
2. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
3. Edberg J, *et al.* 1997. *J. Immunol.* 159:3849. (IP)
4. Hoshino S, *et al.* 1991. *Blood* 78:3232. (Stim)
5. Tamm A, *et al.* 1996. *Immunol.* 157:1576. (Block)
6. Da Silva DM, *et al.* 2001. *Int. Immunol.* 13:633. (IHC)
7. Holl V, *et al.* 2004. *J. Immunol.* 173:6274. (Block)
8. Hober D, *et al.* 2002. *J. Gen. Virol.* 83:2169. (Block)
9. Brainard DM, *et al.* 2009. *J. Virol.* 83:7305. [PubMed](#)
10. Smed-Sørensen A, *et al.* 2008. *Blood* 111:5037. (Block) [PubMed](#)
11. Timmerman KL, *et al.* 2008. *J. Leukoc. Biol.* 84:1271. (FC) [PubMed](#)
12. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
13. Rout N, *et al.* 2010. *PLoS One* 5:e9787. (FC)
14. Kim WK, *et al.* 2006. *Am. J. Pathol.* 168:822. (FC)
15. Boltz A, *et al.* 2011. *J. Biol Chem.* 286:21896. [PubMed](#)
16. Wu Z, *et al.* 2013. *J. Virol.* 87:7717. [PubMed](#)
17. Peterson VM, *et al.* 2017. *Nat. Biotechnol.* 35:936. (PG)
18. Vossebeld PJ, *et al.* 1997. *Biochem J.* 323:87-94 (Stim)

Product Citations

1. McCracken M, *et al.* 2017. *PLoS Pathog.* 10.1371/journal.ppat.1006487. [PubMed](#)
2. Hydes T, *et al.* 2017. *Immun Inflamm Dis.* 10.1002/iid3.190. [PubMed](#)
3. Felices M, *et al.* 2018. *JCI Insight.* 3. [PubMed](#)
4. Frasca D, *et al.* 2018. *PLoS One.* 13:e0197472. [PubMed](#)
5. Friedensohn S, *et al.* 2018. *Front Immunol.* 9:1401. [PubMed](#)
6. Perry JSA, *et al.* 2018. *Immunity.* 48:923. [PubMed](#)
7. Cirelli KM *et al.* 2019. *Cell.* 177(5):1153-1171. [PubMed](#)
8. Hahn J, *et al.* 2019. *Redox Biol.* 26:101279. [PubMed](#)
9. Ong SM, *et al.* 2019. *Front Immunol.* 10:1761. [PubMed](#)
10. Dutertre CA, *et al.* 2020. *Immunity.* 51(3):573-589.e8. [PubMed](#)
11. Dai HS *et al.* 2017. *Immunity.* 47(1):159-170. [PubMed](#)
12. Woodberry T, *et al.* 2017. *Infect Immun.* 85:e00986. [PubMed](#)
13. Dobbs KR, *et al.* 2017. *JCI Insight.* 2:e93684. [PubMed](#)
14. Foote JR, *et al.* 2019. *Front Immunol.* 10:188. [PubMed](#)
15. Flak MB, *et al.* 2020. *J Clin Invest.* 130:359. [PubMed](#)
16. Wiedemann A, *et al.* 2020. *Nat Commun.* 3.048611111. [PubMed](#)
17. Wiernik A, *et al.* 2013. *Clin Cancer Res.* 19:3844. [PubMed](#)
18. Gleason M, *et al.* 2014. *Blood.* 123:3016. [PubMed](#)
19. Weldon A, *et al.* 2015. *J Rheumatol.* 42:749. [PubMed](#)
20. Bratcher P, *et al.* 2016. *J Cystic Fibrosis.* 15: 67-73. [PubMed](#)
21. Romani B, *et al.* 2016. *J Biol Chem.* 291: 2696 - 2711. [PubMed](#)
22. Vallera D, *et al.* 2016. *Clin Cancer Res.* 22: 3440 - 3450. [PubMed](#)
23. Holokai L, *et al.* 2020. *Cancers (Basel).* 12:00. [PubMed](#)
24. Corrado M, *et al.* 2020. *Cell Metab.* 32:981. [PubMed](#)
25. Bäcker-Koduah P, *et al.* 2020. *Ann Clin Transl Neurol.* 1.422222222. [PubMed](#)
26. Ehlers L, *et al.* 2021. *The FASEB Journal.* 35(7):e21684. [PubMed](#)
27. Sharma A, *et al.* 2020. *Cell.* 183(2):377-394.e21. [PubMed](#)
28. Herati RS, *et al.* 2021. *Cell Reports Medicine.* 2(5):100262. [PubMed](#)
29. Caduff N, *et al.* 2021. *Cell Reports.* 35(5):109056. [PubMed](#)
30. Richert-Spuhler LE, *et al.* 2021. *Cell Reports Medicine.* 2(6):100322. [PubMed](#)

RRID

AB_314217 (BioLegend Cat. No. 302017)
AB_314218 (BioLegend Cat. No. 302018)

Antigen Details

Structure	Ig superfamily, transmembrane form (50-65 kD) or GPI-linked form (48 kD)
Distribution	NK cells, activated monocytes, macrophages, neutrophils
Function	Low affinity IgG Fc receptor, phagocytosis, ADCC
Ligand/Receptor	Aggregated IgG, IgG-antigen complex
Cell Type	Dendritic cells, Macrophages, Monocytes, Neutrophils, NK cells
Biology Area	Immunology, Innate Immunity
Molecular Family	CD Molecules, Fc Receptors
Antigen References	<ol style="list-style-type: none">1. Fleit H, <i>et al.</i> 1982. <i>P. Natl. Acad. Sci. USA</i> 79:3275.2. Stroncek D, <i>et al.</i> 1991. <i>Blood</i> 77:1572.3. Wirthmueller U, <i>et al.</i> 1992. <i>J. Exp. Med.</i> 175:1381.

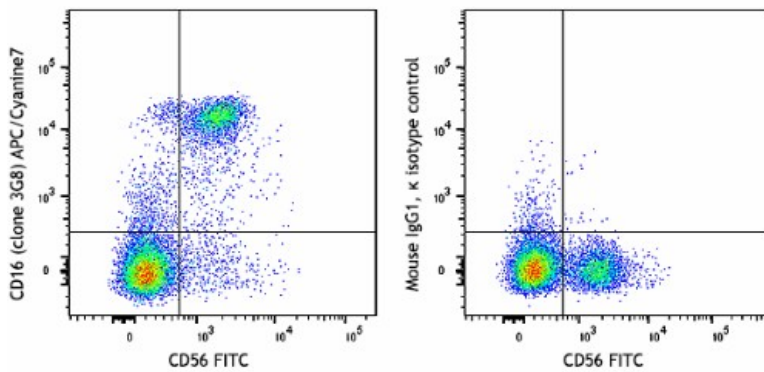
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-human CD16, Biotin anti-human CD16, FITC anti-human CD16, Brilliant Violet 711™ anti-human CD16, PE anti-human CD16, PE/Cyanine5 anti-human CD16, Purified anti-human CD16, APC/Cyanine7 anti-human CD16, PE/Cyanine7 anti-human CD16, Alexa Fluor® 488 anti-human CD16, Alexa Fluor® 647 anti-human CD16, Pacific Blue™ anti-human CD16, Alexa Fluor® 700 anti-human CD16, PerCP/Cyanine5.5 anti-human CD16, PerCP anti-human CD16, Brilliant Violet 421™ anti-human CD16, Brilliant Violet 570™ anti-human CD16, Brilliant Violet 605™ anti-human CD16, Brilliant Violet 650™ anti-human CD16, Brilliant Violet 785™ anti-human CD16, Brilliant Violet 510™ anti-human CD16, Ultra-LEAF™ Purified anti-human CD16, Purified anti-human CD16 (Maxpar® Ready), PE/Dazzle™ 594 anti-human CD16, APC/Fire™ 750 anti-human CD16, TotalSeq™-A0083 anti-human CD16, TotalSeq™-B0083 anti-human CD16, TotalSeq™-C0083 anti-human CD16, PE/Fire™ 640 anti-human CD16, Spark YG™ 581 anti-human CD16, TotalSeq™-D0083 anti-human CD16, APC/Fire™ 810 anti-human CD16, GMP APC anti-human CD16, GMP PE/Dazzle™ 594 anti-human CD16, GMP PE anti-human CD16, Spark Red™ 718 anti-human CD16, GMP Pacific Blue™ anti-human CD16, GMP FITC anti-human CD16

Product Data



Human peripheral blood lymphocytes stained with CD56 (NCAM) FITC and CD16 (clone 3G8) APC/Cyanine7 (left), or Mouse IgG1, κ isotype control APC/Cyanine7 (right).

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