

## Pacific Blue™ anti-human CD16 Antibody

<b>Catalog# / Size</b>	302024 / 25 µg 302021 / 100 µg 302032 / 100 tests
<b>Clone</b>	3G8
<b>Regulatory Status</b>	RUO
<b>Workshop</b>	V NK80
<b>Other Names</b>	FcγRIII, Fc gamma receptor, Fc gamma receptor 3
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	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

---

<b>Verified Reactivity</b>	Human, Cynomolgus, Rhesus
<b>Reported Reactivity</b>	African Green, Baboon, Capuchin Monkey, Chimpanzee, Common Marmoset, Pigtailed Macaque, Sooty Mangabey, Squirrel Monkey
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Human PMN cells
<b>Formulation</b>	test size: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA). µg sizes: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography, and conjugated with Pacific Blue™ under optimal conditions.
<b>Concentration</b>	test size: lot-specific; µg sizes: 0.5 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . <b>For test size</b> , the suggested use of this reagent for immunofluorescent staining is 5 µl per 10 <sup>6</sup> cells in 100 µl volume. <b>For µg sizes</b> , the suggested use of this reagent for immunofluorescent staining is ≤1.0 µg per 10 <sup>6</sup> cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.  * 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.

Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.

[View full statement regarding label licenses](#)

<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	<p>The 3G8 antibody clone blocks neutrophil phagocytosis and stimulates NK cell proliferation. It has been reported that this clone interacts with the FcγRIIa and FcγRIIIb receptors causing neutrophil activation and aggregation<sup>18</sup>. 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 sections<sup>6</sup>, immunoprecipitation<sup>3</sup>, stimulation of NK cell proliferation<sup>4</sup>, blocking of phagocytosis<sup>5</sup>, and blocking of immunoglobulin binding to FcγRIII<sup>7,8</sup>. The Ultra-LEAF™ purified antibody (Endotoxin &lt; 0.01 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for functional assays (Cat. No. 302049, 302050, 302057, 302058).</p>

#### Application References

(PubMed link indicates BioLegend citation)

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

#### Product Citations

- Dessouki O, *et al.* 2010. *Biochem Biophys Res Commun.* 393:331. [PubMed](#)
- Mandi M, *et al.* 2014. *PLoS One.* 9:112140. [PubMed](#)
- Harwood N, *et al.* 2016. *J Leukoc Biol.* 99: 495 - 503. [PubMed](#)
- Shirai T, *et al.* 2016. *J Exp Med.* 213: 337 - 354. [PubMed](#)
- DeGottardi M, *et al.* 2016. *J Immunol.* 197: 1183 - 1198. [PubMed](#)
- Zysset D, *et al.* 2016. *Nat Commun.* 7:13151. [PubMed](#)

#### RRID

AB\_492979 (BioLegend Cat. No. 302024)  
 AB\_492978 (BioLegend Cat. No. 302021)  
 AB\_2104003 (BioLegend Cat. No. 302032)

## Antigen Details

---

<b>Structure</b>	Ig superfamily, transmembrane form (50-65 kD) or GPI-linked form (48 kD)
<b>Distribution</b>	NK cells, activated monocytes, macrophages, neutrophils
<b>Function</b>	Low affinity IgG Fc receptor, phagocytosis, ADCC
<b>Ligand/Receptor</b>	Aggregated IgG, IgG-antigen complex
<b>Cell Type</b>	Dendritic cells, Macrophages, Monocytes, Neutrophils, NK cells
<b>Biology Area</b>	Immunology, Innate Immunity
<b>Molecular Family</b>	CD Molecules, Fc Receptors
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>Fleit H, <i>et al.</i> 1982. <i>P. Natl. Acad. Sci. USA</i> 79:3275.</li> <li>Stroncek D, <i>et al.</i> 1991. <i>Blood</i> 77:1572.</li> <li>Wirthmueller U, <i>et al.</i> 1992. <i>J. Exp. Med.</i> 175:1381.</li> </ol>
<b>Gene ID</b>	<a href="#">2214</a>

## Related Protocols

---

[Cell Surface Flow Cytometry Staining Protocol](#)

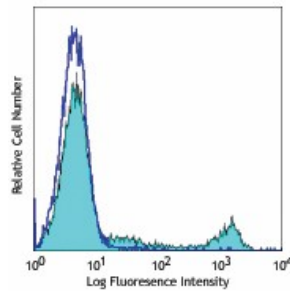
## Other Formats

---

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

## Product Data

---



Human peripheral blood lymphocytes stained with 3G8 Pacific Blue™

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](http://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](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587