

## GMP Pacific Blue™ anti-human CD16 Antibody

<b>Catalog# / Size</b>	260156 / 100 tests
<b>Clone</b>	3G8
<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>Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Human PMN cells
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA) and a stabilizer
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Pacific Blue™ under optimal conditions.
<b>Concentration</b>	200 µg/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> . 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. 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.
<b>Excitation Laser</b>	Violet Laser (405 nm)
<b>Application Notes</b>	The 3G8 antibody clone blocks neutrophil phagocytosis and stimulates NK cell proliferation. It has been reported that this clone interacts with the FcγRIIa and FcγRIIb 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.  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 < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 302049, 302050, 302057, 302058).

### Application References

1. Knapp W, *et al.* Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York.

(PubMed link indicates BioLegend citation)

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- Da Silva DM, et al. 2001. *Int. Immunol.* 13:633. (IHC)
- Höll V, et al. 2004. *J. Immunol.* 173:6274. (Block)
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- Timmerman KL, et al. 2008. *J. Leukoc. Biol.* 84:1271. (FC) [PubMed](#)
- Yoshino N, et al. 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
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- 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)

#### Disclaimer

**GMP RUO Flow Cytometry Antibodies.** BioLegend GMP RUO fluorophore conjugated antibodies are manufactured in a dedicated GMP facility and compliant with ISO 13485:2016. For research use only. Not for use in diagnostic or therapeutic procedures. Our processes include:

- Batch-to-batch consistency
- Material traceability
- Documented procedures
- Documented employee training
- Equipment maintenance and monitoring records
- Lot-specific certificates of analysis
- Quality audits per ISO 13485:2016
- QA review of released products

## Antigen Details

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<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>	1. Fleit H, et al. 1982. <i>P. Natl. Acad. Sci. USA</i> 79:3275. 2. Stroncek D, et al. 1991. <i>Blood</i> 77:1572. 3. Wirthmueller U, et al. 1992. <i>J. Exp. Med.</i> 175:1381.
<b>Gene ID</b>	<a href="#">2214</a>

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

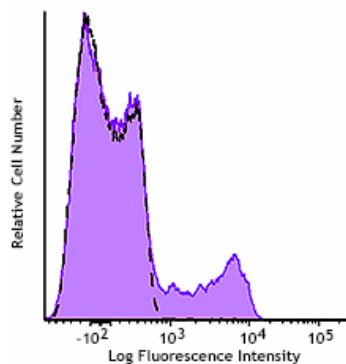
## Other Formats

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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

## Product Data

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Typical results from human peripheral blood lymphocytes stained either with 3G8 Pacific Blue™ used at 5  $\mu$ L/test (filled histogram) or with an isotype control (open histogram).

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