

## Brilliant Violet 570™ anti-human CD16 Antibody

<b>Catalog# / Size</b>	302035 / 25 tests 302036 / 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>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 570™ under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<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.

Brilliant Violet 570™ excites at 405 nm and emits at 570 nm. The bandpass filter 585/42 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. **Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.** Refer to your instrument manual or manufacturer for support. Brilliant Violet 570™ is a trademark of Sirigen Group Ltd.

[Learn more about Brilliant Violet™.](#)

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.

**Excitation Laser** Violet Laser (405 nm)

**Application Notes** 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

(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)
- Höll 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

- Santra S, *et al.* 2015. *PLoS Pathog.* 11: 1005042. [PubMed](#)
- Dudley D, *et al.* 2016. *Nat Commun.* 7:12204. [PubMed](#)
- Meehan S, *et al.* 2019. *Commun Biol.* 2:229. [PubMed](#)
- Li D, *et al.* 2021. *Cell.* 184(16):4203-4219.e32. [PubMed](#)
- Aliota M, *et al.* 2016. *PLoS Negl Trop Dis.* 10:e0005168. [PubMed](#)
- Liechti T, *et al.* 2022. *Nat Commun.* 13:7255. [PubMed](#)
- Cohen KW, *et al.* 2021. *Cell Reports Medicine.* 2(7):100354. [PubMed](#)
- Obradovic A, *et al.* 2021. *Cell.* 184(11):2988-3005.e16. [PubMed](#)
- Stanisic D, *et al.* 2014. *J Infect Dis.* 210:295. [PubMed](#)
- Martin-Gayo E, *et al.* 2020. *Cell Rep.* 30:984. [PubMed](#)
- Bradley T *et al.* 2018. *Cell.* 175(2):387-399. [PubMed](#)
- Han Q, *et al.* 2020. *Cell Rep.* 30:1553. [PubMed](#)
- Mathewson ND, *et al.* 2021. *Cell.* 184(5):1281-1298.e26. [PubMed](#)

#### RRID

AB\_10915988 (BioLegend Cat. No. 302035)  
 AB\_2632790 (BioLegend Cat. No. 302036)

### 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** 1. Fleit H, *et al.* 1982. *P. Natl. Acad. Sci. USA* 79:3275.  
 2. Stroncek D, *et al.* 1991. *Blood* 77:1572.  
 3. Wirthmueller U, *et al.* 1992. *J. Exp. Med.* 175:1381.

**Gene ID** [2214](#)

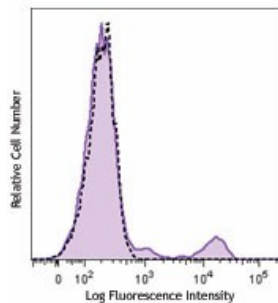
## Related Protocols

[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 were stained with CD16 (clone 3G8) Brilliant Violet 570™ (filled histogram) or mouse IgG1, κ Brilliant Violet 570™ isotype control (open histogram).

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