

**Brilliant Violet 650™ anti-human CD16**

**Catalog # / Size:** 2110205 / 25 tests  
2110210 / 100 tests

**Clone:** 3G8

**Isotype:** Mouse IgG1, κ

**Immunogen:** Human PMN cells

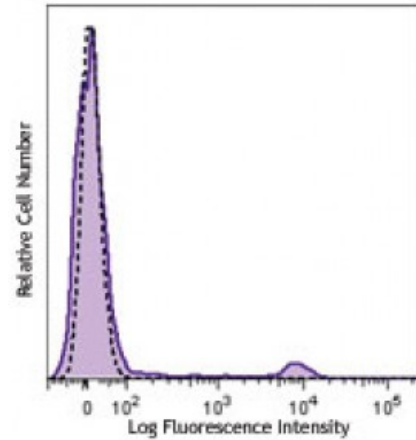
**Reactivity:** Human

**Preparation:** The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 650™ under optimal conditions. The solution is free of unconjugated Brilliant Violet 650™ and unconjugated antibody.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).

**Workshop Number:** V NK80

**Concentration:** Lot-specific



Human peripheral blood lymphocytes were stained with CD16 (clone 3G8) Brilliant Violet 650™.

**Applications:**

**Applications:** Flow Cytometry

**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 microL per million cells or 5 microL per 100 microL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

Brilliant Violet 650™ excites at 405 nm and emits at 645 nm. The bandpass filter 660/20 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 650™ is a trademark of Sirigen Group Ltd.

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**Application Notes:** The 3G8 antibody blocks neutrophil phagocytosis and stimulates NK cell proliferation. 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 LEAF™ purified antibody (Endotoxin <0.1 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for functional assays (Cat. No. 302014). For highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Cat. No. 302050) with a lower endotoxin limit than standard LEAF™ purified antibodies (Endotoxin <0.01

EU/microg).

- Application**
- References:**
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](#)
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**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).

- 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.