

## PE anti-human CD16

**Catalog # / Size:** 2110040 / 100 tests  
2110035 / 25 tests

2110280 / 100 µg

**Clone:** 3G8

**Isotype:** Mouse IgG1, κ

**Immunogen:** Human PMN cells

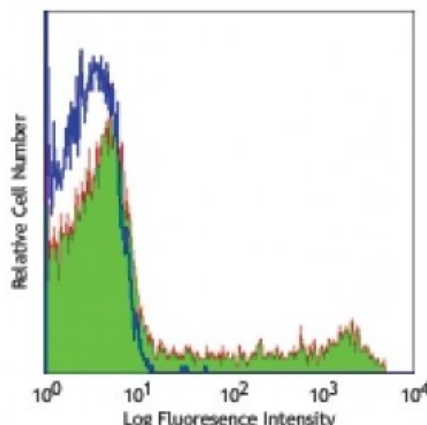
**Reactivity:** Human

**Preparation:** The antibody was purified by affinity chromatography, and conjugated with PE under optimal conditions. The solution is free of unconjugated PE and unconjugated antibody.

**Formulation:** microg size: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.  
test sizes: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA).

**Workshop Number:** V NK80

**Concentration:** microg sizes: 0.2 mg/ml  
test sizes: lot-specific



Human peripheral blood lymphocytes stained with 3G8 PE

## 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 using the microg size, the suggested use of this reagent is  $\leq 0.5$  microg per million cells in 100 microL volume. **Test size products are transitioning from 20 microL to 5 microL per test.** Please check your vial or your CoA to find the suggested use of this reagent per million cells in 100 microL staining volume or per 100 microL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

**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](#)
  17. Radom-Aizik S, *et al.* 2014. *Brain Behav Immun.* 39:121. [PubMed](#)
  18. Mandl M, *et al.* 2014. *PLoS One.* 9:112140. [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.