

## PE/Cy5 anti-human CD16

**Catalog # / Size:** 302009 / 25 tests  
302010 / 100 tests

**Clone:** 3G8

**Isotype:** Mouse IgG1,  $\kappa$

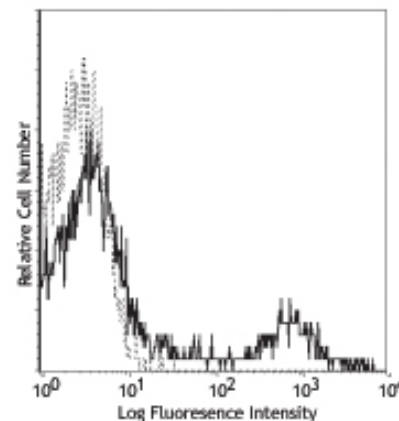
**Workshop Number:** V NK80

**Reactivity:** Human, **Cross-Reactivity:** Chimpanzee, Baboon, Cynomolgus, Rhesus, Pigtailed Macaque, Capuchin Monkey, Squirrel Monkey, Sooty Mangabey, Cotton-topped Tamarin, Marmoset

**Preparation:** The antibody was purified by affinity chromatography, and conjugated with PE/Cy5 under optimal conditions. The solution is free of unconjugated PE/Cy5 and unconjugated antibody.

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

**Storage:** The antibody solution should be stored undiluted at 4°C and protected from prolonged exposure to light. **Do not freeze.**



Human peripheral blood lymphocytes stained with 3G8 PE/Cy5

## Applications:

**Applications:** FC - Quality tested

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. **Test size products are transitioning from 20  $\mu$ l to 5  $\mu$ l per test.** Please check your vial or your CoA to find the suggested use of this reagent per million cells in 100  $\mu$ l staining volume or per 100  $\mu$ l of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. Read more at [www.biolegend.com/testsize](http://www.biolegend.com/testsize) regarding the test size change.

**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 Fc $\gamma$ RIII<sup>7,8</sup>. The LEAF™ purified antibody (Endotoxin <0.1 EU/ $\mu$ g, Azide-Free, 0.2  $\mu$ m 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/ $\mu$ g).

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- Application References:**
- 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

**Description:** CD16 is known as low affinity IgG receptor III (Fc $\gamma$ RIII). It is expressed as two distinct forms (CD16a and CD16b). CD16a (Fc $\gamma$ RIIIA) 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 (Fc $\gamma$ RIIIB) 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:**
- Fleit H, *et al.* 1982. *P. Natl. Acad. Sci. USA* 79:3275.
  - Stroncek D, *et al.* 1991. *Blood* 77:1572.



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3. Wirthmueller U, *et al.* 1992. *J. Exp. Med.* 175:1381.

| <b>Related Products:Product</b>                     | <b>Clone</b> | <b>Application</b> |
|---|--------------|--------------------|
| PE anti-human CD64                                  | 10.1         | FC                 |
| PE anti-human CD32                                  | FUN-2        | FC                 |
| PE/Cy5 Mouse IgG1, $\kappa$ Isotype Ctrl            | MOPC-21      | FC, ICFC           |
| Cell Staining Buffer                                |              | FC, ICC, ICFC      |
| RBC Lysis Buffer (10X)                              |              | FC, ICFC           |
| PE/Cy5 anti-human CD56 (NCAM)                       | MEM-188      | FC                 |
| Human TruStain FcX™ (Fc Receptor Blocking Solution) |              | FC, ICC, ICFC      |



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