

## Pacific Blue™ anti-human CD16

**Catalog # / Size:** 302024 / 25 µg  
302021 / 100 µg  
302032 / 100 tests

**Clone:** 3G8

**Isotype:** Mouse IgG1, κ

**Workshop Number:** V NK80

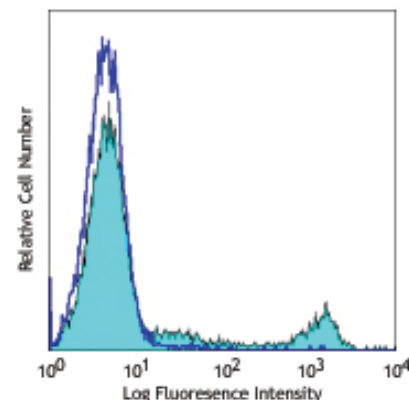
**Reactivity:** Human, **Cross-Reactivity:** Chimpanzee, Baboon, Cynomolgus, Rhesus, Pigtailed Macaque, Capuchin Monkey, Squirrel Monkey, Sooty Mangabey, Cotton-topped Tamarin, Marmoset

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

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

**Concentration:** test size: lot-specific; µg sizes: 0.5 mg/ml

**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 Pacific Blue™

## Applications:

**Applications:** FC - Quality tested

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. **For test size**, the suggested use of this reagent for immunofluorescent staining is 5 µl per 10<sup>6</sup> cells in 100 µl volume. **For µg sizes**, the suggested use of this reagent for immunofluorescent staining is ≤1.0 µg per 10<sup>6</sup> cells in 100 µl volume. 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.

\*\* Pacific Blue™ is a registered trademark of Molecular Probes, Inc. Pacific Blue™ dye antibody conjugates are sold under license from Molecular Probes, Inc. for research use only, except for use in combination with microarrays and high content screening, and are covered by pending and issued patents.

**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/µg).

- 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.
  - Ederberg 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 (FcγRIII). It is expressed as two distinct forms (CD16a and CD16b).



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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.

<b>Related Products:</b>	<b>Product</b>	<b>Clone</b>	<b>Application</b>
	Pacific Blue™ Mouse IgG1, κ Isotype Ctrl	MOPC-21	FC, ICFC
	Cell Staining Buffer		FC, ICC, ICFC
	RBC Lysis Buffer (10X)		FC, ICFC
	Human TruStain FcX™ (Fc Receptor Blocking Solution)		FC, ICC, ICFC



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