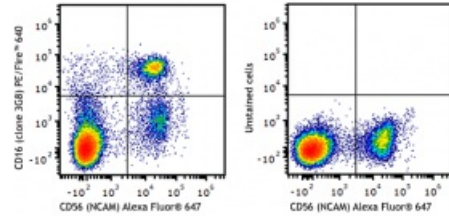


PE/Fire™ 640 anti-human CD16

Catalog # / 2110335 / 25 tests
Size: 2110340 / 100 tests
Clone: 3G8
Isotype: Mouse IgG1, κ
Immunogen: Human PMN cells
Reactivity: Human, Non-human primate
Preparation: The antibody was purified by affinity chromatography and conjugated with PE/Fire™ 640 under optimal conditions.
Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA)
Workshop Number: V NK80
Concentration: Lot-specific



Human peripheral blood lymphocytes were stained with CD56 (NCAM) Alexa Fluor® 647 and CD16 (clone 3G8) PE/Fire™ 640 (left), or CD56 (NCAM) Alexa Fluor® 647 only (right).

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 µL per million cells in 100 µL staining volume or 5 µL per 100 µL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

* PE/Fire™ 640 has a maximum excitation of 566 nm and a maximum emission of 639 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 FcγRIIIa and FcγRIIIb receptors causing neutrophil activation and aggregation¹⁸. 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 sections⁶, immunoprecipitation³, stimulation of NK cell proliferation⁴, blocking of phagocytosis⁵, and blocking of immunoglobulin binding to FcγRIII^{7,8}. 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:**

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. Peterson VM, et al. 2017. *Nat. Biotechnol.* 35:936. (PG)
18. Vossebeld PJ, et al. 1997. *Biochem J.* 323:87-94 (Stim)

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.