

APC/Fire™ 750 anti-human CD16

Catalog # / 2110295 / 25 tests
Size: 2110300 / 100 tests

Clone: 3G8

Isotype: Mouse IgG1, κ

Immunogen: Human PMN cells

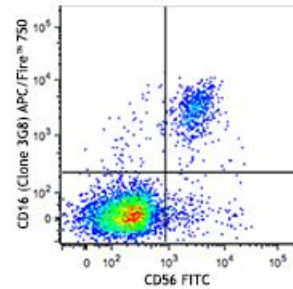
Reactivity: Human, Non-human primate

Preparation: The antibody was purified by affinity chromatography and conjugated with APC/Fire™

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

Workshop Number: 750 under optimal conditions.

Concentration: Lot-specific

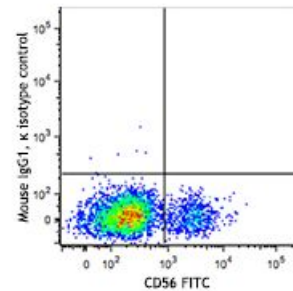


Human peripheral blood lymphocytes were stained with CD56 FITC and CD16 (clone 3G8) APC/Fire™ 750 (top) or mouse IgG1, κ APC/Fire™ 750 isotype control (bottom).

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.



* APC/Fire™ 750 has a maximum excitation of 650 nm and a maximum emission of 787 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.