SONY

Product Data Sheet

PE/Cy7 anti-human CD16

Catalog # / Size: 2110080 / 100 tests
2110075 / 25 tests

Clone: 3G8

Isotype: Mouse IgG1, κ

Immunogen: Human PMN cells

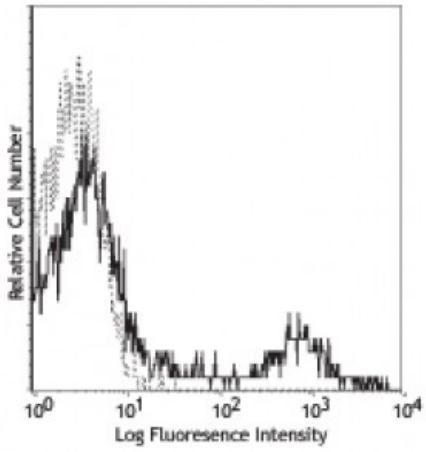
Reactivity: Human

Preparation: The antibody was purified by affinity chromatography, and conjugated with PE/Cy7 under optimal conditions. The solution is free of unconjugated PE/Cy7 and unconjugated antibody.

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 stained with 3G8 PE/Cy5

Applications:

Applications: Flow Cytometry

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 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[6], immunoprecipitation3, stimulation of NK cell proliferation4, blocking of phagocytosis5, and blocking of immunoglobulin binding to FcγRIII[7,8]. 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-Sörensen 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. Wilson EM, *et al.* 2014. *J Infect Dis.* 210:1396. PubMed
18. Mohanty S, *et al.* 2015. *J Infect Dis.* 211:1174. PubMed

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.