SONY

Product Data Sheet

Alexa Fluor® 647 anti-human CD16

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Catalog # / Size:	2110115 / 25 tests 2110100 / 100 tests
Clone:	3G8
Isotype:	Mouse IgG1, κ
Immunogen:	Human PMN cells
Reactivity:	Human
Preparation:	The antibody was purified by affinity chromatography, and conjugated with Alexa Fluor® 647 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
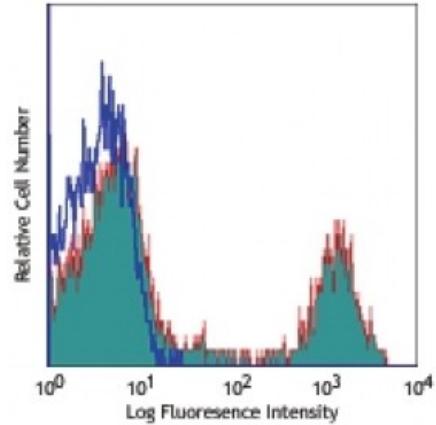
Human peripheral blood lymphocytes stained with 3G8 Alexa Fluor® 647

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 microL per million cells or 5 microL per 100 microL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633nm / 635nm.
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](#)

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.