Purified anti-human CD16 (Maxpar® Ready) Antibody

Catalog# / Size	302051 / 100 µg
Clone	3G8
Regulatory Status	RUO
Workshop	V NK80
Other Names	FcγRIII, Fc gamma receptor, Fc gamma receptor 3
Isotype	Mouse IgG1, κ
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).

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	African Green, Baboon, Capuchin Monkey, Chimpanzee, Common Marmoset, Pigtailed Macaque, Sooty Mangabey, Squirrel Monkey
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Human PMN cells
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and EDTA.
Preparation	The antibody was purified by affinity chromatography.
Concentration	1.0 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	FC - *Quality tested* CyTOF® - *Verified* PG - *Reported in the literature, not verified in house*
Recommended Usage	This product is suitable for use with the Maxpar® Metal Labeling Kits. For metal labeling using Maxpar® Ready antibodies, proceed directly to the step to Partially Reduce the Antibody by adding 100 µl of Maxpar® Ready antibody to 100 µl of 4 mM TCEP-R in a 50 kDa filter and continue with the protocol. Always refer to the latest version of Maxpar® User Guide when conjugating Maxpar® Ready antibodies.
Application Notes	The 3G8 antibody clone blocks neutrophil phagocytosis and stimulates NK cell proliferation. It has been reported that this clone interacts with the FcγRIIa and FcγRIIIb receptors causing neutrophil activation and aggregation[18]. 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 sections[6], immunoprecipitation[3], stimulation of NK cell proliferation[4], blocking of phagocytosis[5], 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).
Additional Product Notes	Maxpar® is a registered trademark of Standard BioTools Inc.
Application References	

(PubMed link indicates BioLegend citation)

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4. Hoshino S, *et al.* 1991. *Blood* 78:3232. (Stim)
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7. Holl V, *et al.* 2004. *J. Immunol.* 173:6274. (Block)
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17. Peterson VM, *et al.* 2017. *Nat. Biotechnol.* 35:936. (PG)
18. Vossebeld PJ, et al. 1997. *Biochem J.* 323:87-94 (Stim)

Product Citations

1. Wei SC *et al.* 2017. Cell. 170(6):1120-1133 . PubMed
2. Jordan S, *et al.* 2020. Cell. 178(5):1102-1114.e17.. PubMed
3. Fenton TM, *et al.* 2020. Immunity. 52(3):557-570. PubMed
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RRID AB_2562814 (BioLegend Cat. No. 302051)

Antigen Details

Structure	Ig superfamily, transmembrane form (50-65 kD) or GPI-linked form (48 kD)
Distribution	NK cells, activated monocytes, macrophages, neutrophils
Function	Low affinity IgG Fc receptor, phagocytosis, ADCC
Ligand/Receptor	Aggregated IgG, IgG-antigen complex
Cell Type	Dendritic cells, Macrophages, Monocytes, Neutrophils, NK cells
Biology Area	Immunology, Innate Immunity
Molecular Family	CD Molecules, Fc Receptors
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.
Gene ID	2214

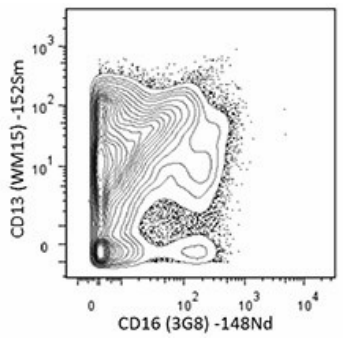
Related Protocols

Cell Surface Flow Cytometry Staining Protocol

Other Formats

APC anti-human CD16, Biotin anti-human CD16, FITC anti-human CD16, Brilliant Violet 711™ anti-human CD16, PE anti-human CD16, PE/Cyanine5 anti-human CD16, Purified anti-human CD16, APC/Cyanine7 anti-human CD16, PE/Cyanine7 anti-human CD16, Alexa Fluor® 488 anti-human CD16, Alexa Fluor® 647 anti-human CD16, Pacific Blue™ anti-human CD16, Alexa Fluor® 700 anti-human CD16, PerCP/Cyanine5.5 anti-human CD16, PerCP anti-human CD16, Brilliant Violet 421™ anti-human CD16, Brilliant Violet 570™ anti-human CD16, Brilliant Violet 605™ anti-human CD16, Brilliant Violet 650™ anti-human CD16, Brilliant Violet 785™ anti-human CD16, Brilliant Violet 510™ anti-human CD16, Ultra-LEAF™ Purified anti-human CD16, Purified anti-human CD16 (Maxpar® Ready), PE/Dazzle™ 594 anti-human CD16, APC/Fire™ 750 anti-human CD16, TotalSeq™-A0083 anti-human CD16, TotalSeq™-B0083 anti-human CD16, TotalSeq™-C0083 anti-human CD16, PE/Fire™ 640 anti-human CD16, Spark YG™ 581 anti-human CD16, TotalSeq™-D0083 anti-human CD16, APC/Fire™ 810 anti-human CD16, GMP APC anti-human CD16, GMP PE/Dazzle™ 594 anti-human CD16, GMP PE anti-human CD16, Spark Red™ 718 anti-human CD16, GMP Pacific Blue™ anti-human CD16, GMP FITC anti-human CD16

Product Data



Human PBMCs stained with 152Sm-anti-CD13 (WM15) and 148Nd-anti-CD16 (3G8). Lymphocytes are displayed in the analysis. Data provided by DVS Sciences.

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