

## TotalSeq™-D0083 anti-human CD16 Antibody

<b>Catalog# / Size</b>	302071 / 10 µg
<b>Clone</b>	3G8
<b>Regulatory Status</b>	RUO
<b>Workshop</b>	V NK80
<b>Other Names</b>	FcγRIII, Fc gamma receptor, Fc gamma receptor 3
<b>Isotype</b>	Mouse IgG1, κ
<b>Barcode Sequence</b>	AAGTTCACTCTTTGC
<b>Description</b>	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

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<b>Verified Reactivity</b>	Human, Cynomolgus, Rhesus
<b>Reported Reactivity</b>	African Green, Baboon, Capuchin Monkey, Chimpanzee, Common Marmoset, Pigtailed Macaque, Sooty Mangabey, Squirrel Monkey
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Human PMN cells
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 1 mM EDTA
<b>Preparation</b>	The antibody was purified by chromatography and conjugated with TotalSeq™-D oligomer under optimal conditions.
<b>Concentration</b>	0.5 mg/mL
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">PG - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> and the oligomer sequence is confirmed by sequencing. TotalSeq™-D antibodies are compatible with <a href="#">Mission Bio's Tapestry Single-Cell Sequencing Platform</a> for simultaneous detection of DNA and Protein.

To maximize performance, it is strongly recommended that the reagent be titrated for each application, and that you centrifuge the antibody dilution before adding to the cells at 14,000xg at 2 - 8°C for 10 minutes. Carefully pipette out the liquid avoiding the bottom of the tube and add to the cell suspension. For Proteogenomics analysis, the suggested starting amount of this reagent for titration is ≤ 1.0 µg per million cells in 100 µL volume. Refer to the corresponding TotalSeq™ protocol for specific staining instructions.

Buyer is solely responsible for determining whether Buyer has all intellectual property rights that are necessary for Buyer's intended uses of the BioLegend TotalSeq™ products. For example, for any technology platform Buyer uses with TotalSeq™, it is Buyer's sole responsibility to determine whether it has all necessary third party intellectual property rights to use that platform and TotalSeq™ with that platform.

<b>Application Notes</b>	The 3G8 antibody clone blocks neutrophil phagocytosis and stimulates NK cell proliferation. It has
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been reported that this clone interacts with the FcγRIIa and FcγRIIb receptors causing neutrophil activation and aggregation<sup>18</sup>. 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<sup>6</sup>, immunoprecipitation<sup>3</sup>, stimulation of NK cell proliferation<sup>4</sup>, blocking of phagocytosis<sup>5</sup>, and blocking of immunoglobulin binding to FcγRIII<sup>7,8</sup>. 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

TotalSeq™-D reagents are designed to profile protein expression at single cell level. The [Mission Bio Tapestri platform](#) and sequencer (e.g. Illumina analyzers) are required. Please contact [technical support](#) for more information, or visit [biolegend.com/totalseq/single-cell-dna](http://biolegend.com/totalseq/single-cell-dna)

The barcode flanking sequences are CGAGATGACTACGCTACTCATGG (PCR handle), and GAGCCGATCTAGTATCTCAGT\*C\*G (capture sequence). \* indicates a phosphorothioated bond, to prevent nuclease degradation.

View more applications data for this product in our [Application Technical Notes](#).

#### Application References

(PubMed link indicates BioLegend citation)

1. Knapp W, *et al.* Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York.
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12. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
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16. Wu Z, *et al.* 2013. *J. Virol.* 87:7717. [PubMed](#)
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18. Vossebeld PJ, *et al.* 1997. *Biochem J.* 323:87-94 (Stim)

#### RRID

AB\_2892348 (BioLegend Cat. No. 302071)

## Antigen Details

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<b>Structure</b>	Ig superfamily, transmembrane form (50-65 kD) or GPI-linked form (48 kD)
<b>Distribution</b>	NK cells, activated monocytes, macrophages, neutrophils
<b>Function</b>	Low affinity IgG Fc receptor, phagocytosis, ADCC
<b>Ligand/Receptor</b>	Aggregated IgG, IgG-antigen complex
<b>Cell Type</b>	Dendritic cells, Macrophages, Monocytes, Neutrophils, NK cells
<b>Biology Area</b>	Immunology, Innate Immunity
<b>Molecular Family</b>	CD Molecules, Fc Receptors
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Fleit H, <i>et al.</i> 1982. <i>P. Natl. Acad. Sci. USA</i> 79:3275.</li><li>2. Stroncek D, <i>et al.</i> 1991. <i>Blood</i> 77:1572.</li><li>3. Wirthmueller U, <i>et al.</i> 1992. <i>J. Exp. Med.</i> 175:1381.</li></ol>
<b>Gene ID</b>	<a href="#">2214</a>

## Related Protocols

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[TotalSeq™-D with Mission Bio Tapestri® Single-Cell DNA + Protein Protocol](#)

## Other Formats

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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

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BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 [www.biolegend.com](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587