

## Ultra-LEAF™ Purified anti-mouse CD16 Antibody

<b>Catalog# / Size</b>	945803 / 100 µg 945804 / 1 mg
<b>Clone</b>	W20015B
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Fc-Gamma Receptor III-2 (CD16), Immunoglobulin G Fc Receptor III, Fc Fragment Of IgG, Low Affinity III, Receptor For, Low Affinity Immunoglobulin Gamma Receptor III-A Fc Fragment, Fc Fragment Of IgG Receptor IIIa, Fc-Gamma RIII-Alpha
<b>Isotype</b>	Rat IgG2b, λ
<b>Description</b>	CD16, also known as FcγRIII, is a low affinity IgG Fc receptor for a broad range of different isotypes. It primarily exists as two distinct forms: FcγRIIIA/CD16a and FcγRIIIB/CD16b, which are encoded by two nearly identical genes in humans. The expression of the two isoforms is tissue-specific. FcγRIIIA is a 50-65 kD type I transmembrane protein that is expressed on the surface of NK cells, activated monocytes, macrophages, and placental trophoblasts in humans. FcγRIIIB is a 48 kD GPI-anchored protein. Its extracellular domain is over 95% homologous to that of FcγRIIIA, and it is expressed specifically on neutrophils. FcγRIIIA can bind aggregated IgG or IgG-antigen complex which functions in NK cell activation, phagocytosis, and antibody-dependent cell-mediated cytotoxicity (ADCC). Several studies indicated that the post-translational modifications of FcγRIIIA or IgG regulate FcγRIIIA-mediated functions. The glycosylation of FcγRIIIA is mandatory for high affinity binding to Fc. Additionally, lack of fucosylation of Fc glycans dramatically enhance ADCC by improving the binding of FcγRIIIA and IgG. It has been reported that the polymorphism (F176V) showed a greater binding capacity to IgG, leading to increasing antibody-dependent NK cell cytotoxicity and susceptibility to autoimmune diseases. The missense mutation (L66H) causes immunodeficiency 20 disease (IMD20). FcγRIIIA associates with γ and zeta chains of T-cell antigen receptor complex (CD3:TCR) and FcεR1γ on human NK cells, suggesting involvement of distinct signal-transducing function.

### Product Details

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<b>Verified Reactivity</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	Recombinant mouse CD16 (Fcγ RIII)
<b>Formulation</b>	0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is < 0.01 EU/µg of the protein (< 0.001 ng/µg of the protein) as determined by the LAL test.
<b>Preparation</b>	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
<b>Concentration</b>	The antibody is bottled at the concentration indicated on the vial, typically between 2 mg/mL and 3 mg/mL. Older lots may have also been bottled at 1 mg/mL. To obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
<b>Application</b>	<a href="#">Block - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by blocking the binding of 11 µg/mL biotin anti-mouse IgG1 antibody (Cat. No. 406604) to 5 µg/mL immobilized recombinant mouse FcγRIII (CD16) (Cat. No. 790104). ND <sub>50</sub> range: 0.02 - 0.15 µg/mL. It is recommended that the reagent be titrated for optimal performance for each application.
<b>RRID</b>	AB_2910506 (BioLegend Cat. No. 945803) AB_2910506 (BioLegend Cat. No. 945804)

## Antigen Details

<b>Structure</b>	Immunoglobulin family
<b>Distribution</b>	NK cells, activated monocytes, macrophages, neutrophils, subpopulation of T cells, immature thymocytes
<b>Function</b>	Low affinity IgG Fc receptor, phagocytosis, ADCC
<b>Interaction</b>	FcγR subunit
<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

### Antigen References

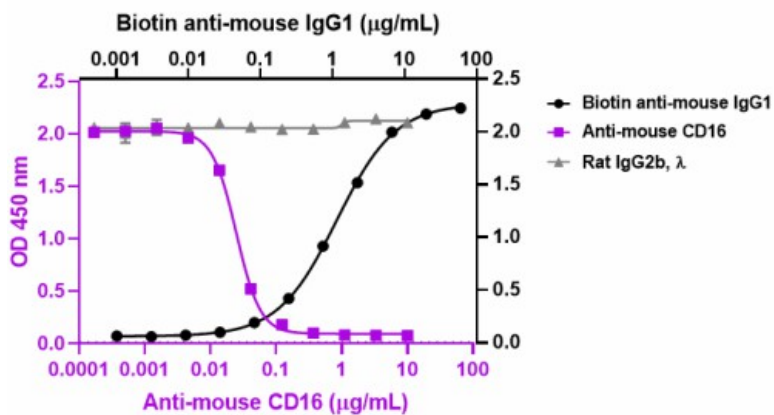
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4. Jakus Z, *et al.* 2008. *J Immunol*. 180:618-29.
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Gene ID [14131](#)

## Other Formats

Ultra-LEAF™ Purified anti-mouse CD16

## Product Data



Biotin anti-mouse IgG1 (Cat. No. 406604) (black circles) binds to immobilized recombinant mouse FcγRIII (CD16) (Cat. No. 790104). Ultra-LEAF™ purified anti-mouse CD16 (clone W20015B) (purple squares) inhibits the binding in a dose-dependent manner whereas the purified rat IgG2b, λ isotype control (Cat. No. 403801) (gray triangles) does not have the effect. This antibody blocks the binding of 11 μg/mL biotin anti-mouse IgG1 to 5 μg/mL immobilized recombinant mouse FcγRIII (CD16). ND<sub>50</sub> range: 0.02 - 0.15 μg/mL

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