

**CD16**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2716a****Specification**

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**CD16 - Product Information**

Application	WB, IHC, ICC, E
Primary Accession	<a href="#">P08637</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Calculated MW	29kDa KDa

**Immunogen**

Purified recombinant fragment of human CD16 (AA: extra 17-208) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**CD16 - Additional Information**

**Gene ID** 2214

**Other Names**

FCGR3A; FCG3; CD16A; FCGR3; IGFR3; IMD20; FCR-10; FCRIII; FCGRIII; FCRIIIA

**Dilution**

WB~~ 1/500 - 1/2000

IHC~~1:100~500

ICC~~N/A

E~~ 1/10000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

CD16 is for research use only and not for use in diagnostic or therapeutic procedures.

**CD16 - Protein Information**

**Name** FCGR3A {ECO:0000303|PubMed:23006327}

**Function**

Receptor for the invariable Fc fragment of immunoglobulin gamma (IgG). Optimally activated upon binding of clustered antigen-IgG complexes displayed on cell surfaces, triggers lysis of antibody-coated cells, a process known as antibody-dependent cellular cytotoxicity (ADCC). Does

not bind free monomeric IgG, thus avoiding inappropriate effector cell activation in the absence of antigenic trigger (PubMed:<a href="http://www.uniprot.org/citations/11711607" target="\_blank">11711607</a>, PubMed:<a href="http://www.uniprot.org/citations/21768335" target="\_blank">21768335</a>, PubMed:<a href="http://www.uniprot.org/citations/22023369" target="\_blank">22023369</a>, PubMed:<a href="http://www.uniprot.org/citations/24412922" target="\_blank">24412922</a>, PubMed:<a href="http://www.uniprot.org/citations/25786175" target="\_blank">25786175</a>, PubMed:<a href="http://www.uniprot.org/citations/25816339" target="\_blank">25816339</a>, PubMed:<a href="http://www.uniprot.org/citations/28652325" target="\_blank">28652325</a>, PubMed:<a href="http://www.uniprot.org/citations/8609432" target="\_blank">8609432</a>, PubMed:<a href="http://www.uniprot.org/citations/9242542" target="\_blank">9242542</a>). Mediates IgG effector functions on natural killer (NK) cells. Binds antigen-IgG complexes generated upon infection and triggers NK cell-dependent cytokine production and degranulation to limit viral load and propagation. Involved in the generation of memory-like adaptive NK cells capable to produce high amounts of IFNG and to efficiently eliminate virus-infected cells via ADCC (PubMed:<a href="http://www.uniprot.org/citations/24412922" target="\_blank">24412922</a>, PubMed:<a href="http://www.uniprot.org/citations/25786175" target="\_blank">25786175</a>). Regulates NK cell survival and proliferation, in particular by preventing NK cell progenitor apoptosis (PubMed:<a href="http://www.uniprot.org/citations/29967280" target="\_blank">29967280</a>, PubMed:<a href="http://www.uniprot.org/citations/9916693" target="\_blank">9916693</a>). Fc-binding subunit that associates with CD247 and/or FCER1G adapters to form functional signaling complexes. Following the engagement of antigen-IgG complexes, triggers phosphorylation of immunoreceptor tyrosine-based activation motif (ITAM)-containing adapters with subsequent activation of phosphatidylinositol 3-kinase signaling and sustained elevation of intracellular calcium that ultimately drive NK cell activation. The ITAM-dependent signaling coupled to receptor phosphorylation by PKC mediates robust intracellular calcium flux that leads to production of pro-inflammatory cytokines, whereas in the absence of receptor phosphorylation it mainly activates phosphatidylinositol 3-kinase signaling leading to cell degranulation (PubMed:<a href="http://www.uniprot.org/citations/1825220" target="\_blank">1825220</a>, PubMed:<a href="http://www.uniprot.org/citations/23024279" target="\_blank">23024279</a>, PubMed:<a href="http://www.uniprot.org/citations/2532305" target="\_blank">2532305</a>). Costimulates NK cells and trigger lysis of target cells independently of IgG binding (PubMed:<a href="http://www.uniprot.org/citations/10318937" target="\_blank">10318937</a>, PubMed:<a href="http://www.uniprot.org/citations/23006327" target="\_blank">23006327</a>). Mediates the antitumor activities of therapeutic antibodies. Upon ligation on monocytes triggers TNFA-dependent ADCC of IgG-coated tumor cells (PubMed:<a href="http://www.uniprot.org/citations/27670158" target="\_blank">27670158</a>). Mediates enhanced ADCC in response to afucosylated IgGs (PubMed:<a href="http://www.uniprot.org/citations/34485821" target="\_blank">34485821</a>).

### Cellular Location

Cell membrane; Single-pass type I membrane protein. Secreted. Note=Also exists as a soluble receptor

### Tissue Location

Expressed in natural killer cells (at protein level) (PubMed:2526846). Expressed in a subset of circulating monocytes (at protein level) (PubMed:27670158).

## CD16 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**CD16 - Images**

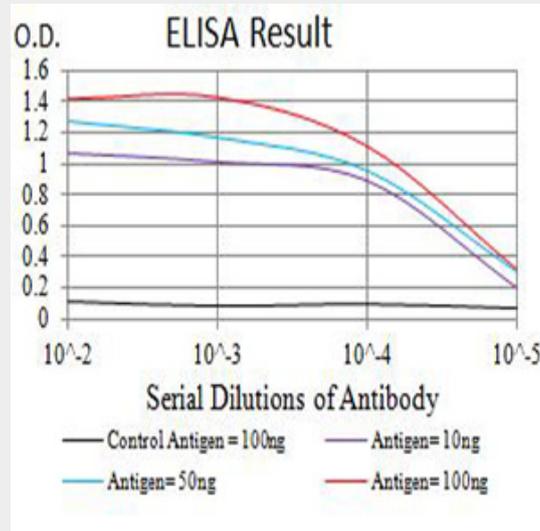


Figure 1: Black line: Control Antigen (100 ng); Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line: Antigen (100 ng)

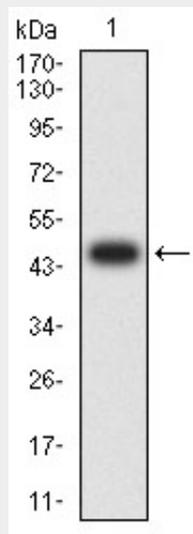


Figure 2: Western blot analysis using CD16 mAb against human CD16 (AA: extra 17-208) recombinant protein. (Expected MW is 47.8 kDa)

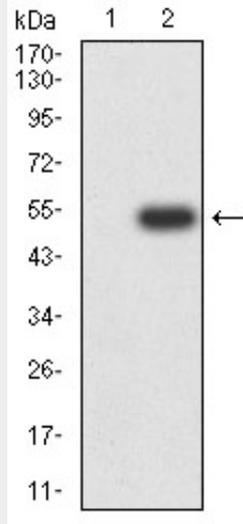


Figure 3:Western blot analysis using CD16 mAb against HEK293 (1) and CD16 (AA: extra 17-208)-hlgGFc transfected HEK293 (2) cell lysate.

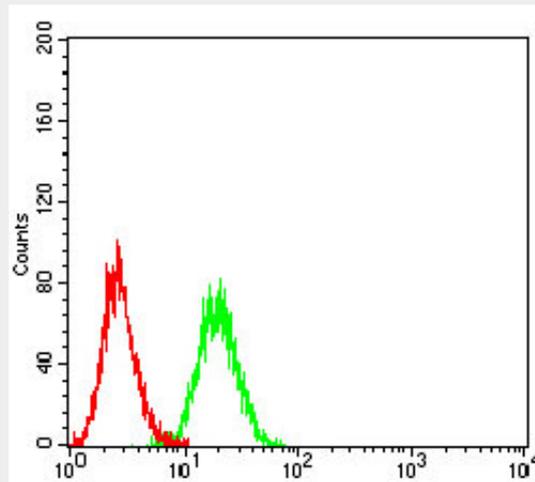


Figure 4:Flow cytometric analysis of Ramos cells using CD16 mouse mAb (green) and negative control (red).

**CD16 - References**

1.Hum Immunol. 2016 Feb;77(2):165-71.2.PLoS One. 2015 Oct 7;10(10):e0140120.