

## Anti-CD16 Rabbit Monoclonal Antibody Catalog # ABO15626

### Specification

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#### Anti-CD16 Rabbit Monoclonal Antibody - Product Information

Application	WB, IF, ICC, FC
Primary Accession	<a href="#">P08637</a>
Host	Rabbit
Isotype	IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

#### Description

Anti-CD16 Rabbit Monoclonal Antibody . Tested in WB, ICC/IF, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

#### Anti-CD16 Rabbit Monoclonal Antibody - Additional Information

Gene ID 2214

#### Other Names

Low affinity immunoglobulin gamma Fc region receptor III-A, IgG Fc receptor III-A, CD16-II, CD16a antigen, Fc-gamma RIII-alpha, Fc-gamma RIII, Fc-gamma RIIIa, FcRIII, FcRIIIa, FcgammaRIIIA, FcR-10, IgG Fc receptor III-2, CD16a, FCGR3A {ECO:0000303|PubMed:23006327}

#### Calculated MW

42 kDa KDa

#### Application Details

WB 1:500-1:2000<br>ICC/IF 1:50-1:200<br>FC 1:50

#### Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

#### Immunogen

A synthesized peptide derived from human CD16

#### Purification

Affinity-chromatography

#### Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

#### Anti-CD16 Rabbit Monoclonal Antibody - 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:[11711607](http://www.uniprot.org/citations/11711607), PubMed:[21768335](http://www.uniprot.org/citations/21768335), PubMed:[22023369](http://www.uniprot.org/citations/22023369), PubMed:[24412922](http://www.uniprot.org/citations/24412922), PubMed:[25786175](http://www.uniprot.org/citations/25786175), PubMed:[25816339](http://www.uniprot.org/citations/25816339), PubMed:[28652325](http://www.uniprot.org/citations/28652325), PubMed:[8609432](http://www.uniprot.org/citations/8609432), PubMed:[9242542](http://www.uniprot.org/citations/9242542)). 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:[24412922](http://www.uniprot.org/citations/24412922), PubMed:[25786175](http://www.uniprot.org/citations/25786175)). Regulates NK cell survival and proliferation, in particular by preventing NK cell progenitor apoptosis (PubMed:[29967280](http://www.uniprot.org/citations/29967280), PubMed:[9916693](http://www.uniprot.org/citations/9916693)). 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:[1825220](http://www.uniprot.org/citations/1825220), PubMed:[23024279](http://www.uniprot.org/citations/23024279), PubMed:[2532305](http://www.uniprot.org/citations/2532305)). Costimulates NK cells and trigger lysis of target cells independently of IgG binding (PubMed:[10318937](http://www.uniprot.org/citations/10318937), PubMed:[23006327](http://www.uniprot.org/citations/23006327)). Mediates the antitumor activities of therapeutic antibodies. Upon ligation on monocytes triggers TNFA-dependent ADCC of IgG-coated tumor cells (PubMed:[27670158](http://www.uniprot.org/citations/27670158)). Mediates enhanced ADCC in response to afucosylated IgGs (PubMed:[34485821](http://www.uniprot.org/citations/34485821)).

### Cellular Location

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

### Tissue Location

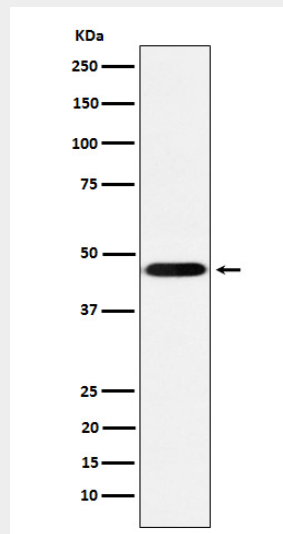
Expressed in natural killer cells (at protein level) (PubMed:2526846). Expressed in a subset of circulating monocytes (at protein level) (PubMed:27670158).

## Anti-CD16 Rabbit Monoclonal Antibody - Protocols

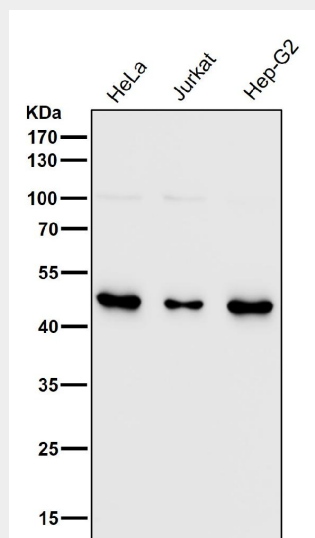
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-CD16 Rabbit Monoclonal Antibody - Images



Western blot analysis of CD16 expression in THP-1 cell lysate.



All lanes use the Antibody at 1:5k dilution for 1 hour at room temperature.

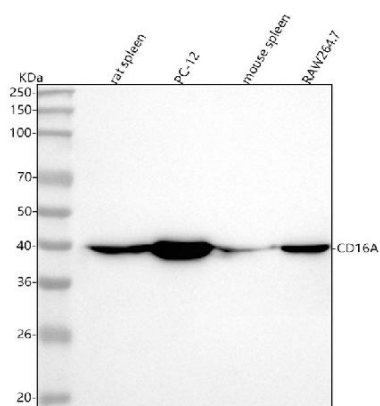


Figure 1. Western blot analysis of CD16 using anti-CD16 antibody (M01408-1).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: rat spleen tissue lysates,

Lane 2: rat PC-12 whole cell lysates,

Lane 3: mouse spleen tissue lysates,

Lane 4: mouse RAW264.7 whole cell lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CD16 antigen affinity purified monoclonal antibody (Catalog # M01408-1) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for CD16 at approximately 42 kDa. The expected band size for CD16 is at 29 kDa.