abcam

ab316218

Anti-CD163 antibody [RM1114]

Anti-CD163 antibody [RM1114] (ab316218) is a rabbit recombinant multiclonal antibody detecting CD163 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1114
Purification technique	Affinity purification Protein A
Specificity	Not suitable for mouse and rat WB.
Concentration	0.529 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/500

Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CD163

Function	Acute phase-regulated receptor involved in clearance and endocytosis of hemoglobin/haptoglobin complexes by macrophages and may thereby protect tissues from free hemoglobin-mediated oxidative damage. May play a role in the uptake and recycling of iron, via endocytosis of hemoglobin/haptoglobin and subsequent breakdown of heme. Binds hemoglobin/haptoglobin complexes in a calcium-dependent and pH-dependent manner. Exhibits a higher affinity for complexes of hemoglobin and multimeric haptoglobin of HP*1F phenotype than for complexes of hemoglobin and dimeric haptoglobin of HP*1S phenotype. Induces a cascade of intracellular signals that involves tyrosine kinase-dependent calcium mobilization, inositol triphosphate production and secretion of IL6 and CSF1. Isoform 3 exhibits the higher capacity for ligand endocytosis and the more pronounced surface expression when expressed in cells. After shedding, the soluble form (sCD163) may play an anti-inflammatory role, and may be a valuable diagnostic parameter for monitoring macrophage activation in inflammatory conditions.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-CD163 antibody [RM1114] (ab316218) is a rabbit recombinant recombinant multiclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

Other related products
We have a range of other formats of antibody clone [RM1114] also available for your convenience: ab316218, Carrier free - ab316219

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light

chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD163 known also as hemoglobin scavenger receptor is a membrane glycoprotein with a molecular weight of approximately 130 kDa. It is predominantly expressed by monocytes and macrophages which are types of immune cells. Located on the cell surface CD163 functions as a receptor that aids in the clearance of hemoglobin-haptoglobin complexes playing a critical role in maintaining iron homeostasis and protecting tissues from oxidative damage. CD163 is not limited to human cells only; researchers often study its function using animal models such as chimeric rodents and chimeric rats.
Biological function summary	CD163 participates in anti-inflammatory processes and is linked to immune modulation. It plays a pivotal role in the resolution of inflammation and promotes the removal of damaged cells and tissues. Through its involvement in the endocytic pathway CD163 interacts with various ligands facilitating interactions with other proteins. In the context of research CD163 functionality can be analyzed using techniques like CD163 IHC CD163 ELISA and CD163 stain in both human and mouse models.
Pathways	CD163 is integral to the inflammation and immune response pathways. It participates in the heme-oxygenase pathway which is essential in the breakdown of heme into biliverdin free iron and carbon monoxide. This pathway involvement is tightly linked with heme oxygenase-1 (HO-1) a cytoprotective enzyme that helps to mitigate inflammatory responses. The interaction with haptoglobin and related proteins provides further insight into its regulatory roles within the immune system.
Associated diseases and disorders	CD163 is associated with conditions like atherosclerosis and acute inflammation disorders. Its elevated levels indicate macrophage activation observed in chronic inflammations such as cardiovascular diseases. In atherosclerosis CD163 expression correlates with the uptake of oxidized LDL connecting it to progression of the disease. Additionally soluble CD163 levels serve as a biomarker in conditions like chronic liver disease where it is linked to macrophage activation and fibrosis.

Within these disorders proteins like LDL and inflammatory cytokines are closely associated with CD163 function and regulation.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

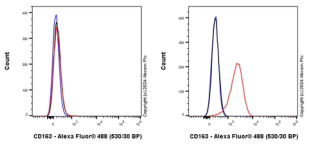
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

10 product images

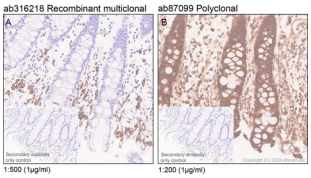


Flow Cytometry (Intracellular) - Anti-CD163 antibody [RM1114] (ab316218)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized THP-1 (human monocytic leukemia monocyte, Left) / SU-DHL-1 (human histiocytic lymphoblast-like cell, Right) cells labelling CD163 with ab316218 at 1/500 dilution (0.1 ug)/(Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Negative control: THP-1.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD163 antibody [RM1114] (ab316218)

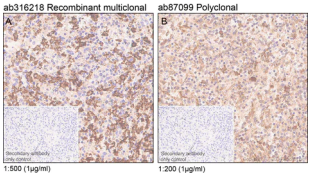
Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling CD163 with ab316218 at 1/500 (0.988 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on immune cells of human colon in (A) ab316218, non-specific staining on human colon in (B) ab87099.
The image on (A) ab316218 is applied with Anti-CD163 antibody at 1/500 dilution and (B) ab87099 is applied with Anti-CD163 antibody at 1/200 dilution.
The section was incubated with ab316218 or ab87099 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD163 antibody [RM1114] (ab316218)

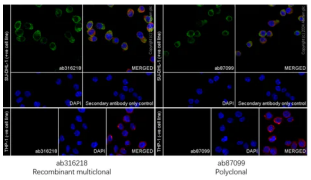
Immunohistochemical analysis of paraffin-embedded Human spleen tissue labeling CD163 with ab316218 at 1/500 (0.988 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human spleen in (A) ab316218 and (B) ab87099.
The image on (A) ab316218 is applied with Anti-CD163 antibody at 1/500 dilution and (B) ab87099 is applied with Anti-CD163 antibody at 1/200 dilution.
The section was incubated with ab316218 or ab87099 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-CD163 antibody [RM1114] (ab316218)

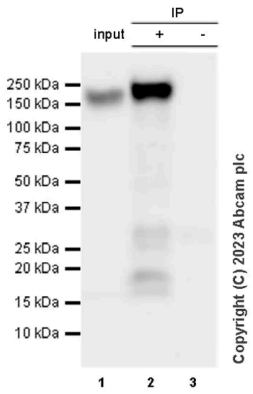
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SU-DHL-1 (human histiocytic lymphoblast-like cell) cells labelling CD163 with ab316218 at 1/50 (9.88 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green).

Confocal image showing cytoplasmic staining in SU-DHL-1 cell line.
Negative control: THP-1 (PMID: 10648003).
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

Left Panel is applied with Anti-CD163 antibody [RM1114] (ab316218) at 1/50 dilution;
Right panel is applied with Anti-CD163 antibody (ab87099) at 1/50 dilution.

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/mL) dilution.



Immunoprecipitation - Anti-CD163 antibody [RM1114] (ab316218)

CD163 was immunoprecipitated from 0.35 mg SU-DHL-1 (human histiocytic lymphoblast-like cell) whole cell lysate with ab316218 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab316218 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: SU-DHL-1 (human histiocytic lymphoblast-like cell) whole cell lysate
Lane 2: ab316218 IP in SU-DHL-1 (human histiocytic lymphoblast-like cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab316218 in SU-DHL-1 whole cell lysate

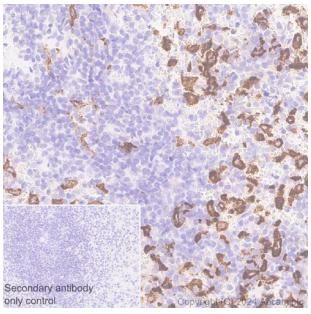
All lanes:
Immunoprecipitation - Anti-CD163 antibody [RM1114] (ab316218) at 1/30 dilution

All lanes:
SU-DHL-1 (human histiocytic lymphoblast-like cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366)

Exposure time: 15s



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD163 antibody [RM1114] (ab316218)

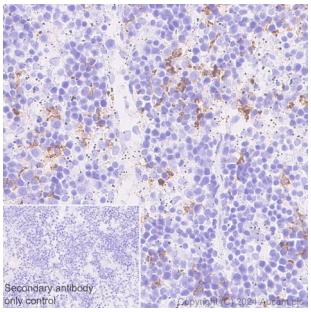
Immunohistochemical analysis of paraffin-embedded Rat spleen tissue labeling CD163 with ab316218 at 1/500 (0.988 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on rat spleen. The section was incubated with ab316218 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD163 antibody [RM1114] (ab316218)

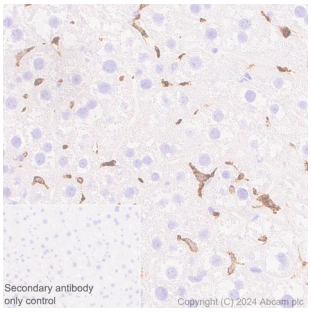
Immunohistochemical analysis of paraffin-embedded Mouse spleen tissue labeling CD163 with ab316218 at 1/500 (0.988 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse spleen. The section was incubated with ab316218 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD163 antibody [RM1114] (ab316218)

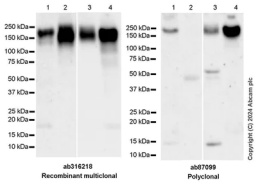
Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling CD163 with ab316218 at 1/500 (0.988 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on kupffer cells of mouse liver. The section was incubated with ab316218 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Western blot - Anti-CD163 antibody [RM1114] (ab316218)

CD163 Western blot staining using rabbit Anti-CD163 antibody

Left Panel is applied with Anti-CD163 antibody [RM1114] (ab316218) at 1/1000 dilution (0.494 ug/ml); Right panel is applied with Anti-CD163 antibody (ab87099) at 1/1000 dilution (0.2 ug/ml).

Exposure time: Lanes 1-2: 180 seconds; Lane 3-4: 26 seconds

All lanes:
Western blot - Anti-CD163 antibody [RM1114] (ab316218) at 1/1000 dilution

Lane 1:
Human spleen tissue lysate at 20 µg

Lane 2:
Human liver tissue lysate at 20 µg

Lane 3:

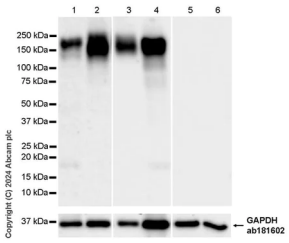
Human placenta tissue lysate at 20 µg

Lane 4:
SU-DHL-1 (human histiocytic lymphoblast-like cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 150 kDa



Western blot - Anti-CD163 antibody [RM1114] (ab316218)

CD163 Western blot staining using rabbit Anti-CD163 antibody

Negative control: U-937 and THP-1(PMID:10648003).

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

Exposure time: Lanes 1-2: 180 seconds; Lane 3-6: 26 seconds

All lanes:
Western blot - Anti-CD163 antibody [RM1114] (ab316218) at 1/1000 dilution

Lane 1:
Human spleen tissue lysate at 20 µg

Lane 2:
Human liver tissue lysate at 20 µg

Lane 3:
Human placenta tissue lysate at 20 µg

Lane 4:
SU-DHL-1 (human histiocytic lymphoblast-like cell) whole cell lysate at 20 µg

Lane 5:
U-937 (human histiocytic lymphoma monocyte) whole cell lysate at 20 µg

Lane 6:
THP-1 (human monocytic leukemia monocyte) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 150 kDa, 36 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.