abcam

ab315834

Anti-CD204 antibody [RM2033]

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	RM2033
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for mouse IP and human FC.
Concentration	0.514 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Species	Mouse
Dilution info	1/100
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	1/50 - 1/5000
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
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	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Rat

Dilution info	-
Notes	-

Target data

See full target information Msr1

Function	Membrane glycoproteins implicated in the pathologic deposition of cholesterol in arterial walls during atherogenesis. Two types of receptor subunits exist. These receptors mediate the endocytosis of a diverse group of macromolecules, including modified low density lipoproteins (LDL).

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 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.

Supplementary info

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

Activity summary	CD204 also known as MSR1 or the macrophage scavenger receptor 1 is a class A scavenger receptor. It has a molecular mass of approximately 80-85 kDa. CD204 is mainly expressed on the surface of macrophages as well as some dendritic cells. This receptor plays a role in mediating the endocytosis of various polyanionic molecules such as modified low-density lipoproteins. CD204 serves as a recognition site for apoptotic cells signaling molecules and some types of bacteria.
Biological function summary	CD204 influences inflammatory responses and lipid metabolism. It does not function alone but as part of a complex involving several other molecules like pattern recognition receptors. CD204 recognizes and binds to modified lipoproteins and is significant in processes like phagocytosis and clearance of cellular debris. Its activity affects immune response modulation and can influence atherosclerosis development by its interaction with oxidized low-density lipoproteins.
Pathways	The role of CD204 extends to key cellular and immunological pathways. This receptor is involved in the Toll-like receptor signaling pathway which is important for innate immunity besides participating in the macrophage activation pathways. In these pathways CD204 interacts with other proteins including CD36 and SRA. This interaction helps coordinate inflammatory responses and the resolution of inflammation.
Associated diseases and disorders	CD204 is associated with atherosclerosis and chronic inflammation. Its connection with these conditions arises from its role in lipid uptake and immune cell regulation within the vascular system. In the context of atherosclerosis CD204's interaction with Apolipoprotein E (ApoE) influences the formation of foam cells which are significant in the disease's progression. Similarly in chronic inflammation CD204 modulates macrophage behavior impacting the inflammatory environment and potentially affecting the disease outcome.

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

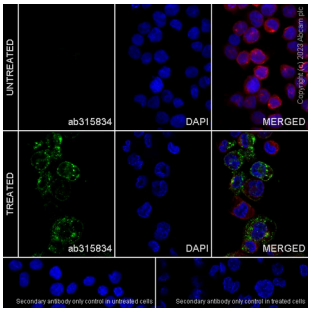
We do not recommend this combination. It is not covered by our product promise.

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.

14 product images



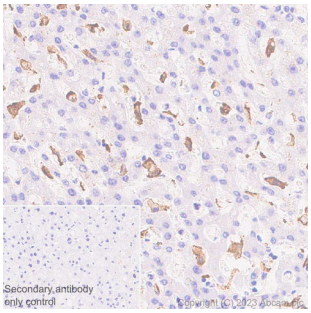
Immunocytochemistry/ Immunofluorescence - Anti-CD204 antibody [RM2033] (ab315834)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized THP-1 (human monocytic leukemia monocyte) cells labelling CD204 with ab315834 at 1/100 (5.14 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 THP-1 cells treated with Phorbol-12-myristate-13-acetate (80nM) for 72hours.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD204 antibody [RM2033] (ab315834)

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling CD204 with ab315834 at 1/500 (1.028 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on kupffer cells of human liver. The section was incubated with ab315834 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-CD204 antibody [RM2033] (ab315834)

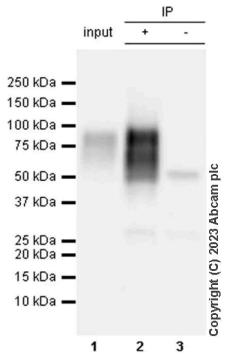
Immunohistochemical analysis of paraffin-embedded Human lung tissue labeling CD204 with ab315834 at 1/500 (1.028 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on macrophages of human lung. The section was incubated with ab315834 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.



Immunoprecipitation - Anti-CD204 antibody [RM2033] (ab315834)

CD204 was immunoprecipitated from 0.35 mg THP-1 (human monocytic leukemia monocyte) treated with 80nM Phorbol-12-myristate-13-acetate (PMA) for 72 hours, whole cell lysate with ab315834 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab315834 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP) (ab131366) was used at 1/5000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-CD204 antibody [RM2033] (ab315834) at 1/1000 dilution

Lane 1:
THP-1 (human monocytic leukemia monocyte) treated with 80nM Phorbol-12-myristate-13-acetate (PMA) for 72 hours, whole cell lysate

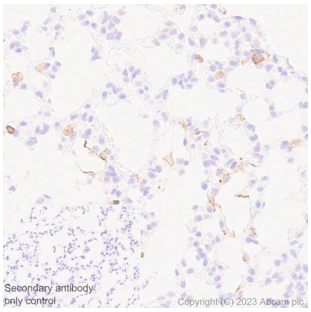
Lane 2:
ab315834 at 1/30 IP in THP-1 (human monocytic leukemia monocyte) treated with 80nM Phorbol-12-myristate-13-acetate (PMA) for 72 hours, whole cell lysate at 1/30 dilution

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab315834 in THP-1 treated with 80nM Phorbol-12-myristate-13-acetate (PMA) for 72 hours, whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 10s



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD204 antibody [RM2033] (ab315834)

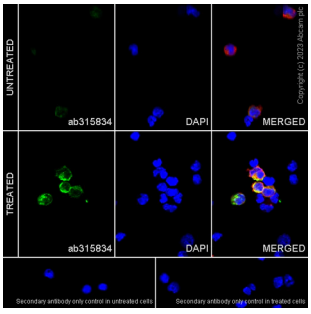
Immunohistochemical analysis of paraffin-embedded Mouse lung tissue labeling CD204 with ab315834 at 1/2000 (0.257 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on macrophages of mouse lung. The section was incubated with ab315834 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.



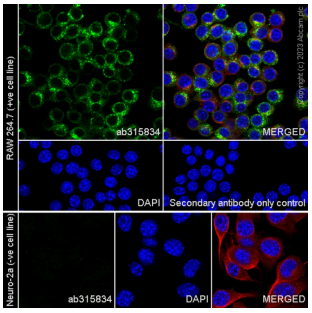
Immunocytochemistry/ Immunofluorescence - Anti-CD204 antibody [RM2033] (ab315834)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Mouse bone marrow cells labelling CD204 with ab315834 at 1/100 (5.14 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 increased cytoplasmic staining in mouse bone marrow cells treated with Lipopolysaccharides (2ug/ml) for 24h, which is co-staining with F4/80.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Anti-F4/80 rat monoclonal antibody was used to counterstain 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.



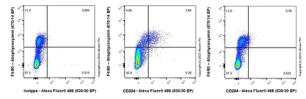
Immunocytochemistry/ Immunofluorescence - Anti-CD204 antibody [RM2033] (ab315834)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) cells labelling CD204 with ab315834 at 1/100 (5.14 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 RAW 264.7 cells.
Negative control: Neuro-2a.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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.

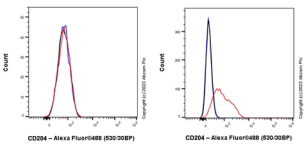


Flow Cytometry - Anti-CD204 antibody [RM2033] (ab315834)

Flow cytometric analysis of Isotype (Left) / Mouse bone marrow treated with 2ug/ml LPS for 24h (Middle) / Untreated mouse bone marrow (Right) cells labelling CD204 with ab315834 at 1/5000 dilution (0.01 ug)/Middle and Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

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

Gated on viable cells. Cells are co-stained with F4/80 conjugated to Allophycocyanin.

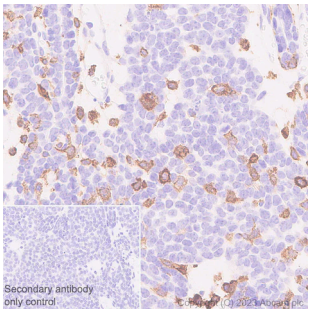


Flow Cytometry - Anti-CD204 antibody [RM2033] (ab315834)

Flow cytometric analysis of Neuro-2a (mouse neuroblastoma neuroblast, Left) / Raw264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage, Right) cells labelling CD204 with ab315834 at 1/50 dilution (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: Neuro-2a. Gated on viable cells.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD204 antibody [RM2033] (ab315834)

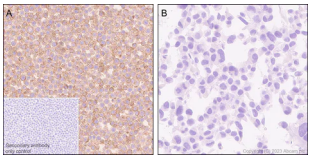
Immunohistochemical analysis of paraffin-embedded Mouse head and neck Neuroendocrine carcinoma tissue labeling CD204 with ab315834 at 1/2000 (0.257 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse head and neck Neuroendocrine carcinoma. The section was incubated with ab315834 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-CD204 antibody [RM2033] (ab315834)

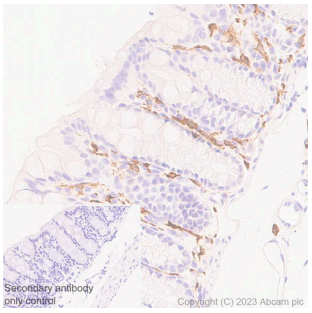
Immunohistochemical analysis of paraffin-embedded (A) RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) cell pellets. (B) Neuro-2a (mouse neuroblastoma neuroblast) cell pellets. tissue labeling CD204 with ab315834 at 1/2000 (0.257 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on (A) RAW 264.7 cell pellets, no staining on (B) Neuro-2a cell pellets. The section was incubated with ab315834 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-CD204 antibody [RM2033] (ab315834)

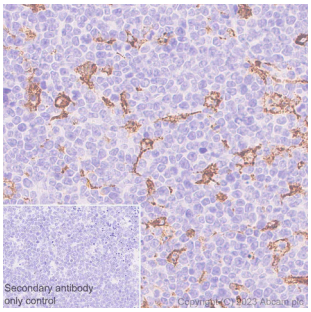
Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labeling CD204 with ab315834 at 1/2000 (0.257 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on immune cells of mouse colon. The section was incubated with ab315834 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-CD204 antibody [RM2033] (ab315834)

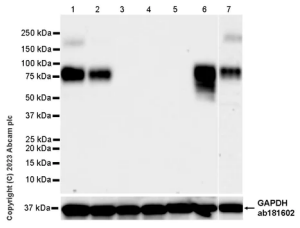
Immunohistochemical analysis of paraffin-embedded Mouse Burkitt's lymphoma tissue labeling CD204 with ab315834 at 1/2000 (0.257 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse Burkitt's lymphoma. The section was incubated with ab315834 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-CD204 antibody [RM2033] (ab315834)

CD204 Western blot staining using rabbit Anti-CD204 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: Neuro-2a, NIH/3T3.

The expression profile/ molecular weight observed is consistent with what has been described in the literature (PMID: 35937296, 30991038).

CD204 expression can be induced by PMA treatment (PMID: 30991038).

This blot of lane 7 was developed using a higher sensitivity ECL substrate.

The identity of the higher MW bands at approximately 150 kDa in lane 1 and lane 7 are unknown.

Lanes 1-6 are applied with Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 and lane 7 is applied with Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000.

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

Exposure time: Lane 1-6: 37 seconds; Lane 7: 180 seconds.

All lanes:
Western blot - Anti-CD204 antibody [RM2033] (ab315834) at 1/1000 dilution

Lane 1:
J774A.1 (mouse reticum cell sarcoma monocyte/macrophage) whole cell lysate at 20 µg

Lane 2:
RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 20 µg

Lane 3:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Lane 4:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 5:
Untreated THP-1 (human monocytic leukemia monocyte) whole cell lysate at 20 µg

Lane 6:
THP-1 treated with 80nM Phorbol-12-myristate-13-acetate (PMA) for 72 hours, whole cell lysate at 20 µg

Lane 7:
Human liver tissue lysate at 20 µg

Secondary

Lanes 1 - 6:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Lane 7:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 80 kDa, 36 kDa

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