abcam

ab179638

Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR16618-90
Purification technique	Affinity purification Protein A
Concentration	0.622 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

sELISA

Tested

Species	Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/500
Notes	-

EIA

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/600
Notes	-

Target data

See full target information Ccl3

Function	Monokine with inflammatory and chemokinetic properties. Binds to CCR1, CCR4 and CCR5. One of the major HIV-suppressive factors produced by CD8+ T-cells. Recombinant MIP-1-alpha induces a dose-dependent inhibition of different strains of HIV-1, HIV-2, and simian immunodeficiency virus (SIV).

Storage

Shipped at conditions	Conditional Ambient
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

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.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	MIP-1 alpha also known as CCL3 is a chemokine that plays a critical role in the immune system. With a molecular weight of around 8 kDa it is primarily expressed in activated T-cells macrophages and fibroblasts. MIP-1 alpha acts as a signaling protein that binds to receptors on target cells directing the movement of immune cells. Researchers commonly refer to it using various alternative names such as MIP-1a and CCL3-alpha rat and it is frequently measured using assays like MIP-1 alpha ELISA for experimental analyses.
Biological function summary	Proteins including MIP-1 alpha participate in the recruitment and activation of diverse immune cells aiding the inflammatory response. Through interaction with receptors like CCR1 and CCR5 MIP-1 alpha mobilizes cells like natural killer cells and monocytes. This chemokine does not generally form part of a larger protein complex but interacts directly with membrane receptors to exert its function in immune cell chemotaxis.
Pathways	MIP-1 alpha operates in the context of both the inflammatory response and the chemokine signaling pathways. Its involvement in these pathways helps mediate the trafficking of leukocytes. Notably MIP-1 alpha interacts with proteins such as CCR1 and CCR5 to transmit signals that instigate immune responses. These proteins are integral to its role in modulating immunity providing targets for research into controlling inflammatory processes.
Associated diseases and disorders	MIP-1 alpha closely relates to conditions such as rheumatoid arthritis and HIV infection. In rheumatoid arthritis its overexpression can lead to excessive inflammation and joint destruction. Meanwhile in HIV infection MIP-1 alpha interacts with CCR5 a co-receptor necessary for the virus entry into cells. This dual relationship elucidates its potential as a therapeutic target in managing both inflammatory diseases and viral entry mechanisms.

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

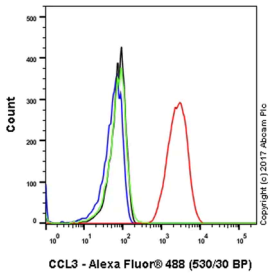
We do not recommend this combination. It is not covered by our product promise.

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.

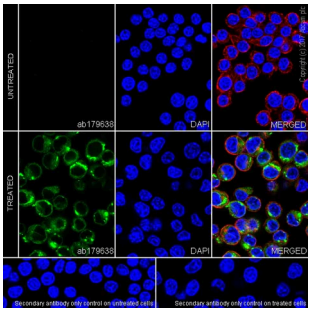
6 product images



Flow Cytometry (Intracellular) - Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90] (ab179638)

CCL3 / MIP-1 alpha Flow Cytometry (Intracellular) staining using rabbit Anti-CCL3 / MIP-1 alpha antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized RAW 264.7 (mouse macrophage cell line transformed with Abelson murine leukemia virus) cell line, treated with 100 ng/ml Lipopolysaccharide for 3 hours, then add 300 ng/ml Brefeldin A for the last 3 hours (red) / Untreated control (green), labeling Macrophage Inflammatory Protein 1 alpha / CCL3 with ab179638 at 1/600 compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.

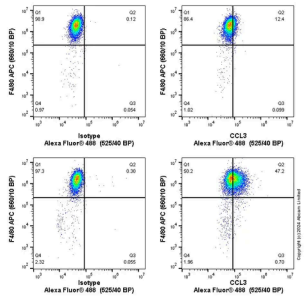


Immunocytochemistry/ Immunofluorescence - Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90] (ab179638)

CCL3 / MIP-1 alpha Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CCL3 / MIP-1 alpha antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized RAW 264.7 (mouse macrophage cell line transformed with Abelson murine leukemia virus) untreated or treated with 100 ng/ml Lipopolysaccharide for 3 hours, followed by 300 ng/ml Brefeldin A for 3 hours cells labeling Macrophage Inflammatory Protein 1 alpha / CCL3 with ab179638 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing positive staining in RAW 264.7 treated with 100 ng/ml Lipopolysaccharide for 3 hours, followed by 300 ng/ml Brefeldin A for 3 hours.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90] (ab179638)

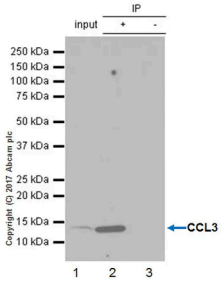
CCL3 / MIP-1 alpha Flow Cytometry (Intracellular) staining of Mouse Bone Marrow Cell-derived Macrophages using rabbit Anti-CCL3 / MIP-1 alpha antibody

Flow cytometry staining of C57BL/6 Mouse Bone Marrow Cell-derived Macrophages (top) or C57BL/6 Mouse Bone Marrow Cell-derived Macrophages treated with LPS, 18 Hours, 10ng/mL + Brefeldin A, 3 Hours, 1µg/mL (bottom) with ab179638 (right) or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (left). Cells were fixed and permeabilised with BD

Cytofix/Cytoperm™ for 20 min. Cells were incubated for 30min on ice in 1x PBS containing 10µg/ml anti CD16/CD32 and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody ab179638 or Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control (1x 10^6in 100 µl at 5.0 µg/ml (1/100)) for 30min at 22°C. The cells were simultaneously stained with F4/80.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter. Events were gated on live cells.



Immunoprecipitation - Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90] (ab179638)

Macrophage Inflammatory Protein 1 alpha / CCL3 was immunoprecipitated from 0.35 mg RAW 264.7 (mouse macrophage cell line transformed with Abelson murine leukemia virus), treated with 100 ng/ml Lipopolysaccharide for 3 hours, then add 300 ng/ml Brefeldin A for the last 3 hours, whole cell lysate with ab179638 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab179638 at 1/1000 dilution. VeriBlot for IP Detection Reagent(HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: RAW 264.7 treated with 100 ng/ml Lipopolysaccharide for 3 hours, then add 300 ng/ml Brefeldin A for the last 3 hours whole cell lysate 10 µg (Input).

Lane 2: ab179638 IP in RAW 264.7 treated with 100 ng/ml Lipopolysaccharide for 3 hours, then add 300 ng/ml Brefeldin A for the last 3 hours whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab179638 in RAW 264.7 treated with 100 ng/ml Lipopolysaccharide for 3 hours, then add 300 ng/ml Brefeldin A for the last 3 hours whole cell lysate.

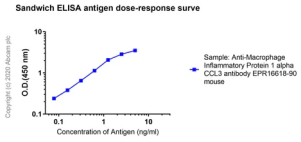
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 10 seconds.

High sensitivity ECL substrate used to develop the blot.

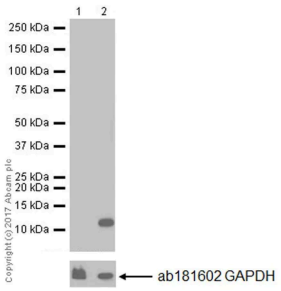
All lanes:
Immunoprecipitation - Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90] (ab179638)

Predicted band size: 10 kDa



Sandwich ELISA - Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90] (ab179638)

Standard Curve for Macrophage Inflammatory Protein 1 alpha / CCL3 (Analyte: Recombinant mouse Macrophage Inflammatory Protein 1 alpha / CCL3 protein) dilution range 0-5 ng/mL using Capture antibody at 0.2 ug/mL and Detector Antibody at 0.5 ug/mL. Secondary antibody: Peroxidase Streptavidin SA-HRP at 1/20000 dilution. Concentration of ab179638 may vary from lot to lot; please use this curve as guideline.
Washing buffer: 1X PBST
Diluting/Blocking buffer and concentration: 1% BSA/PBS



Western blot - Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90] (ab179638)

CCL3 / MIP-1 alpha Western blot staining using rabbit Anti-CCL3 / MIP-1 alpha antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
The molecular mass observed is consistent with what has been described in the literature (PMID: 9848081).

All lanes:
Western blot - Anti-CCL3 / MIP-1 alpha antibody [EPR16618-90] (ab179638) at 1/1000 dilution

Lane 1:
Untreated RAW 264.7 (mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate at 20 µg

Lane 2:
RAW 264.7 treated with 100 ng/ml LPS for 3 hours and then 300 ng/ml Brefeldin A was added for the last 3 hours, whole cell lysate at 20 µg

Secondary

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

Developed using the ECL technique.

Predicted band size: 10 kDa, 39 kDa

Observed band size: 10 kDa

Exposure time: 3min

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