abcam

ab183302

Anti-MIF antibody [EPR12463] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR12463
Purification technique	Affinity purification Protein A
Concentration	0.979 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Rat
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Mouse

Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information MIF

Function	Pro-inflammatory cytokine involved in the innate immune response to bacterial pathogens (PubMed:15908412, PubMed:17443469, PubMed:23776208). The expression of MIF at sites of inflammation suggests a role as mediator in regulating the function of macrophages in host defense (PubMed:15908412, PubMed:17443469, PubMed:23776208). Counteracts the anti-inflammatory activity of glucocorticoids (PubMed:15908412, PubMed:17443469, PubMed:23776208). Has phenylpyruvate tautomerase and dopachrome tautomerase activity (in vitro), but the physiological substrate is not known (PubMed:11439086, PubMed:17526494). It is not clear whether the tautomerase activity has any physiological relevance, and whether it is important for cytokine activity (PubMed:11439086, PubMed:17526494).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab183302 is the carrier-free version of ab175189.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Macrophage migration inhibitory factor (MIF) also known as glycosylation-inhibiting factor is a protein with a molecular mass of approximately 12.5 kDa. It plays a mechanistic role as a cytokine that regulates immune responses specifically influencing macrophage behavior. MIF expresses in various cell types including immune and epithelial cells. It gets secreted by activated lymphocytes and macrophages pointing to its involvement in the inflammatory process.
Biological function summary	MIF acts as an upstream regulator of innate immunity and exerts broad influence on cytokine release. MIF elevates pro-inflammatory cytokines like TNF-alpha and IL-1beta promoting an immune response. It does not typically form part of a complex but interacts with cell surface receptors like CD74 triggering intracellular signaling pathways. These interactions illustrate MIF as a regulator of immune cell recruitment and activation.
Pathways	MIF participates in the glucocorticoid receptor regulatory pathway and MAP kinase pathway. It shows interaction with JNK and ERK1/2 proteins which further map into important cellular reactions like stress response and cell proliferation. By integrating into these pathways MIF influences cell survival proliferation and inflammatory cascades emphasizing its role in immune regulation.
Associated diseases and disorders	MIF links to inflammatory diseases such as rheumatoid arthritis and sepsis. It influences disease progression by interacting with proteins like TNF-alpha and IL-6 contributing to inflammatory damage. Elevated MIF levels often correlate with disease severity in rheumatoid arthritis acting as a potential target for therapy. Furthermore sepsis demonstrates a similar pattern where MIF modulation can impact patient outcomes underlining its relevance in clinical investigations.

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

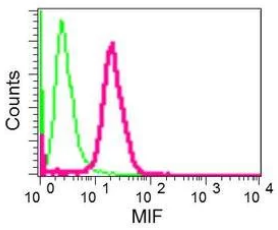
We do not recommend this combination. It is not covered by our product promise.

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.

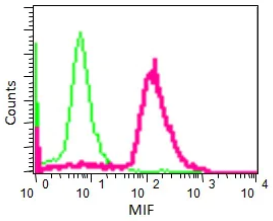
6 product images



Flow Cytometry (Intracellular) - Anti-MIF antibody [EPR12463] - BSA and Azide free (ab183302)

MIF Flow Cytometry (Intracellular) staining using rabbit Anti-MIF antibody

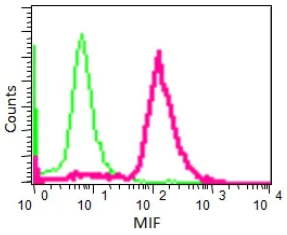
Intracellular flow cytometric analysis of permeabilized Molt-4 cells using unpurified ab175189 at a 1/10 dilution (red) or a rabbit IgG (negative) (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab175189).



Flow Cytometry (Intracellular) - Anti-MIF antibody [EPR12463] - BSA and Azide free (ab183302)

MIF Flow Cytometry (Intracellular) staining using rabbit Anti-MIF antibody

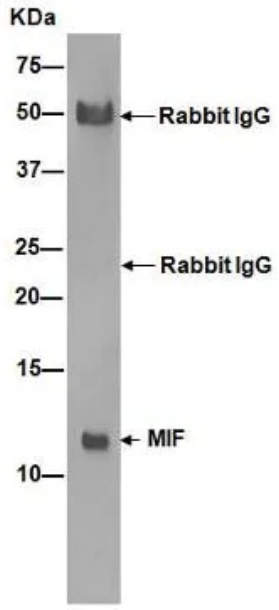
Intracellular Flow Cytometry analysis of THP-1 cells labelling MIF with purified ab175189 at 1/140 (red). Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary anitbody. A rabbit monoclonal IgG was used as the isotype control (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab175189).



Flow Cytometry (Intracellular) - Anti-MIF antibody [EPR12463] - BSA and Azide free (ab183302)

MIF Flow Cytometry (Intracellular) staining using rabbit Anti-MIF antibody

Intracellular Flow Cytometry analysis of THP-1 cells labelling MIF with unpurified ab175189 at 1/50 (red). Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary anitbody. A rabbit monoclonal IgG was used as the isotype control (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab175189).



Immunoprecipitation - Anti-MIF antibody [EPR12463] - BSA and Azide free (ab183302)

ab175189 (unpurified) at 1/30 immunoprecipitating MIF in human fetal brain. For western blotting, a Peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/1000). Blocking buffer and concentration: 5% NFDM/TBST.

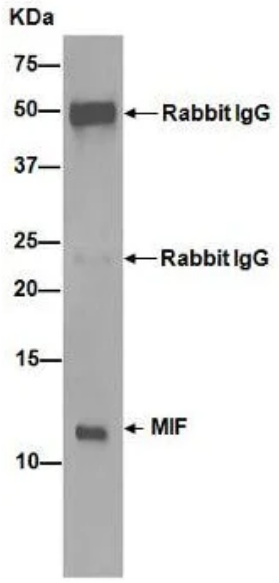
Diluting buffer and concentration: 5% NFDM /TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab175189).

All lanes:
Immunoprecipitation - Anti-MIF antibody [EPR12463] (ab175189)

Predicted band size: 12 kDa

Observed band size: 12 kDa



Immunoprecipitation - Anti-MIF antibody [EPR12463] - BSA and Azide free (ab183302)

ab175189 (purified) at 1/50 immunoprecipitating MIF in human fetal brain. For western blotting, a Peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/1000). Blocking buffer and concentration: 5% NFDM/TBST.

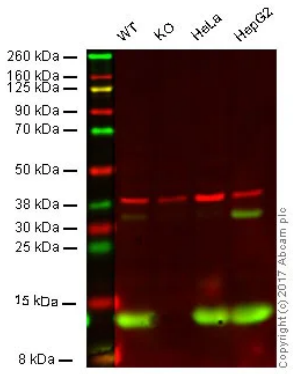
Diluting buffer and concentration: 5% NFDM /TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab175189).

All lanes:
Immunoprecipitation - Anti-MIF antibody [EPR12463] (ab175189)

Predicted band size: 12 kDa

Observed band size: 12 kDa



Western blot - Anti-MIF antibody [EPR12463] - BSA and Azide free (ab183302)

MIF Western blot staining using rabbit Anti-MIF antibody

Lane 1: Wild-type HAP1 whole cell lysate (20 µg)
Lane 2: MIF knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lane 4: HepG2 whole cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab175189 observed at 12 kDa. Red - loading control, ab9484, observed at 37 kDa.

ab175189 was shown to specifically react with MIF in wild-type HAP1 cells along with additional cross-reactive bands. No bands were observed when knockout cells were examined. Wild-type and MIF knockout samples were subjected to SDS-PAGE. ab175189 and ab9484 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20,000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1/2,0000 dilution for 1 hour at room temperature before imaging.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab175189).

All lanes:
Western blot - Anti-MIF antibody [EPR12463] - BSA and Azide free (ab183302)

Predicted band size: 12 kDa

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