abcam

ab175189

Anti-MIF antibody [EPR12463]

Recombinant | RabMAb | KO Validated | 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	EPR12463
Purification technique	Affinity purification Protein A
Concentration	0.68 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/50
Notes	**For unpurified use at 1/30.**

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	**For unpurified use at 1/500 - 1/1000.**

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	**For unpurified use at 1/500 - 1/1000.**

Species	Human
Dilution info	1/1000 - 1/10000
Notes	**For unpurified use at 1/500 - 1/1000.**

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/140
Notes	For unpurified use at 1/50. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

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	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	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.

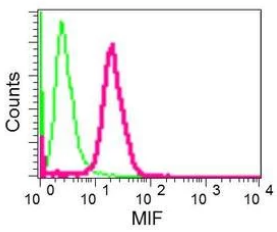
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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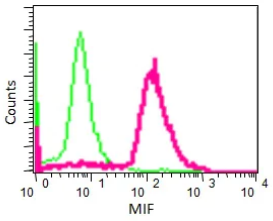
9 product images



Flow Cytometry (Intracellular) - Anti-MIF antibody [EPR12463] (ab175189)

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

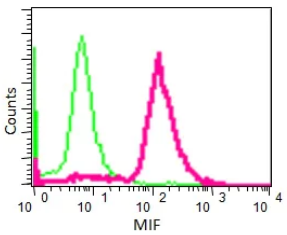
Intracellular flow cytometric analysis of permeabilized Molt-4 cells using unpurified ab175189 at a 1/10 dilution (red) or a rabbit IgG (negative) (green).



Flow Cytometry (Intracellular) - Anti-MIF antibody [EPR12463] (ab175189)

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

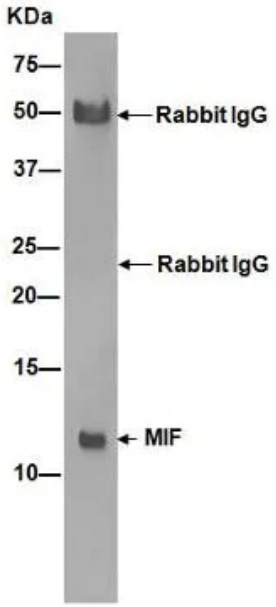
Intracellular Flow Cytometry analysis of THP-1 cells labelling MIF with purified ab175189 at 1/140 (red). Cells were fixed with 2% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary anitbody. A rabbit monoclonal IgG was used as the isotype control (green).



Flow Cytometry (Intracellular) - Anti-MIF antibody [EPR12463] (ab175189)

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).



Immunoprecipitation - Anti-MIF antibody [EPR12463] (ab175189)

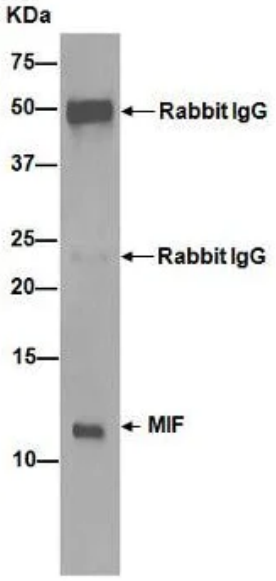
ab175189 (unpurified) at 1/30 immunoprecipitating MIF in human fetal brain. For western blotting, a Peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/1000). Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

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

Predicted band size: 12 kDa

Observed band size: 12 kDa



Immunoprecipitation - Anti-MIF antibody [EPR12463] (ab175189)

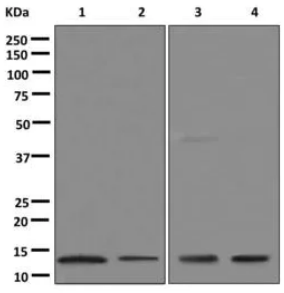
ab175189 (purified) at 1/50 immunoprecipitating MIF in human fetal brain. For western blotting, a Peroxidase-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/1000). Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

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

Predicted band size: 12 kDa

Observed band size: 12 kDa



Western blot - Anti-MIF antibody [EPR12463] (ab175189)

All lanes:
Western blot - Anti-MIF antibody [EPR12463] (ab175189) at 1/1000 dilution

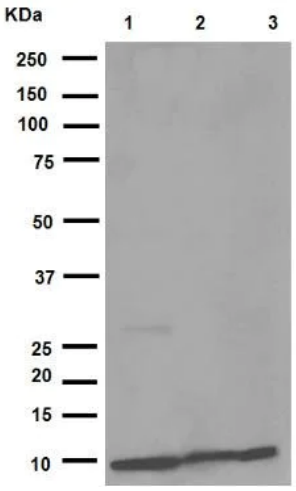
Lane 1:
Y79 lysates at 10 µg

Lane 2:
THP-1 lysates at 10 µg

Lane 3:
Molt-4 lysates at 10 µg

Lane 4:
Human fetal brain lysates at 10 µg

Predicted band size: 12 kDa



Western blot - Anti-MIF antibody [EPR12463] (ab175189)

MIF Western blot staining using rabbit Anti-MIF antibody

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

All lanes:
Western blot - Anti-MIF antibody [EPR12463] (ab175189) at 1/1000 dilution

Lane 1:
Y79 cell lysate at 20 µg/mL

Lane 2:
Mouse brain tissue lysate at 20 µg/mL

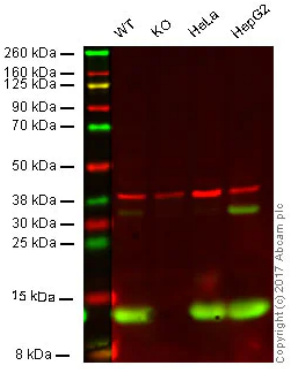
Lane 3:
Rat brain tissue lysate at 20 µg/mL

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 12 kDa

Observed band size: 12 kDa



Western blot - Anti-MIF antibody [EPR12463] (ab175189)

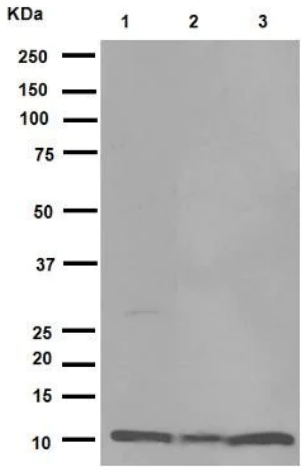
MIF Western blot staining using rabbit Anti-MIF antibody

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.

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

Predicted band size: 12 kDa



Western blot - Anti-MIF antibody [EPR12463] (ab175189)

MIF Western blot staining using rabbit Anti-MIF antibody

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

All lanes:
Western blot - Anti-MIF antibody [EPR12463] (ab175189) at 1/2000 dilution

Lane 1:
Y79 cell lysate at 20 µg

Lane 2:
Mouse brain tissue lysate at 20 µg

Lane 3:
Rat brain tissue lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 12 kDa

Observed band size: 12 kDa

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