abcam

ab55445

Anti-MIF antibody [2A10-4D3]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human MIF. Database link P14174
Clone number	2A10-4D3
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	0.43 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Expected

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

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
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	Blue Ice
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

This product was changed from ascites to tissue culture supernatant on 24/1/19. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

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

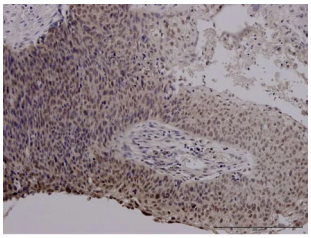
We do not recommend this combination. It is not covered by our product promise.

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.

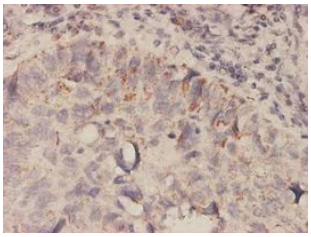
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MIF antibody [2A10-4D3] (ab55445)

MIF Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-MIF antibody

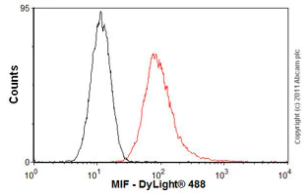
Paraffin embedded human lung squamous cell carcinoma tissue stained for MIF using ab55445 at 6 µg/ml in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MIF antibody [2A10-4D3] (ab55445)

MIF Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-MIF antibody

MIF antibody (ab55445) used in immunohistochemistry at 5ug/ml on formalin fixed and paraffin embedded human lung, adenosqumous cell carcinoma tissue.



Flow Cytometry - Anti-MIF antibody [2A10-4D3] (ab55445)

MIF Flow Cytometry staining using mouse Anti-MIF antibody

Overlay histogram showing Jurkat cells stained with ab55445 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab55445, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 4% paraformaldehyde (10 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.
This image was generated using the ascites version of the product.

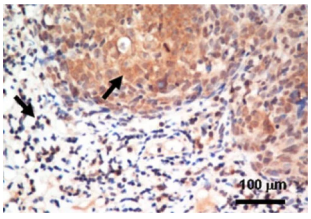
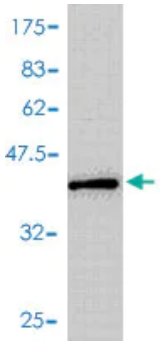


Image from Li J et al., J Biol Chem. 2012 Oct 12;287(42):35484-95. doi: 10.1074/jbc.M112.367532. Epub 2012 Aug 14.Fig 7.; October 12, 2012 The Journal of Biological Chemistry, 287, 35484-35495.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MIF antibody [2A10-4D3] (ab55445)

Immunohistochemical analysis of Human nasopharyngeal carcinoma, staining MIF with ab55445 at 1/100 dilution.
This image was generated using the ascites version of the product.



Western blot - Anti-MIF antibody [2A10-4D3] (ab55445)

Western blot against tagged recombinant protein immunogen using ab55445 MIF antibody at 1µg/ml. Predicted band size of immunogen is 38 kDa
This image was generated using the ascites version of the product.

All lanes:
Western blot - Anti-MIF antibody [2A10-4D3] (ab55445)

Predicted band size: 12 kDa

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