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Produktinformation



Forschungsprodukte & Biochemikalien



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Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION



MIF (human recombinant)

Item No. 14493

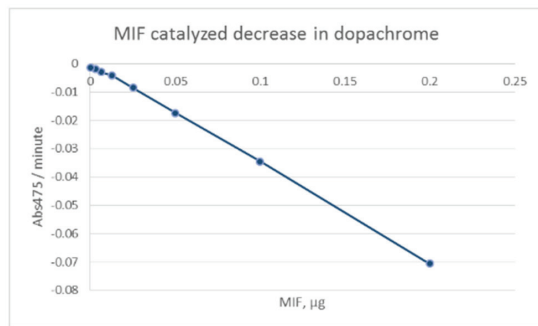
Overview and Properties

Synonyms: Macrophage Migration Inhibitory Factor
Source: Recombinant human MIF expressed in *E. coli*
Uniprot No.: P14174

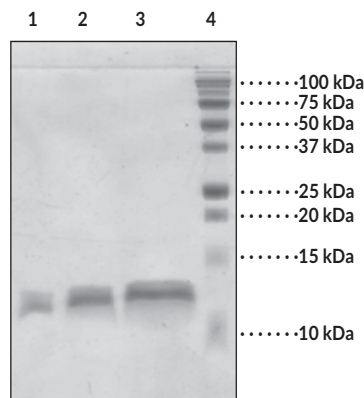
Batch specific information can be found on the Certificate of Analysis or by contacting Technical Support

Molecular Weight: 12.6 kDa
Storage: -80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein.
Stability: As supplied, 6 months from the QC date provided on the Certificate of Analysis, when stored properly
Purity: *batch specific* ($\geq 95\%$ estimated by SDS-PAGE)
Supplied in: *batch specific*
Protein
Concentration: *batch specific* mg/ml
Activity: *batch specific* U/ml
Specific Activity: *batch specific* U/mg
Unit Definition: One unit is defined as the amount of enzyme required to tautomerize 1 nmole of L-dopachrome (5,6-dihydroxyindole-2-carboxylate methyl ester) per minute at 21°C in 40 mM Bis-Tris, pH 6.2, 0.8 mM EDTA, containing 260 μ M L-dopachrome methyl ester, and 510 μ M sodium periodate.

Images



Purified MIF tautomerizes L-dopachrome, leading to a loss of absorbance at 475 nm.



Lane 1: MIF (2 μ g)
Lane 2: MIF (5 μ g)
Lane 3: MIF (10 μ g)
Lane 4: MW Markers

Representative gel image shown; actual purity may vary between each batch.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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PRODUCT INFORMATION



Description

Macrophage Migration Inhibitory Factor (MIF) is a small, pro-inflammatory cytokine. MIF signaling is important in septic shock, arthritis, colitis, and cardiovascular diseases.¹ MIF counteracts glucocorticoid signaling, which would otherwise inhibit inflammation. Secreted MIF binds to CD74 receptors, which then couple to CD44, during monocyte recruitment.² In addition to CD44 binding, MIF is an enzymatically active keto-enol tautomerase that is inhibited by isothiocyanates such as sulforaphane.³ Overexpression of MIF has been seen in several cancers. MIF overexpression has been shown to promote hypoxia induced HIF-1 α stabilization leading to changes in the tumor microenvironment, including stimulation of angiogenesis and neovascularization.⁴

References

1. Zernecke, A., Bernhagen, J., and Weber, C. Macrophage migration inhibitory factor in cardiovascular disease. *Circulation* **117**, 1594-1602 (2008).
2. Leng, L. and Bucala, R. Insight into the biology of macrophage migration inhibitory factor (MIF) revealed by the cloning of its cell surface receptor. *Cell Res.* **16**, 162-168 (2006).
3. Healy, Z.R., Liu, H., Holtzclaw, W.D., and Talalay, P. Inactivation of tautomerase activity of macrophage migration of inhibitory factor by sulforaphane: A potential biomarker for anti-inflammatory intervention. *Cancer Epidemiol Biomarkers Prev.* **20(7)**, 1516-1523 (2011).
4. Rendon, B.E., Willer, S.S., Zundel, W., and Mitchell, R.A. Mechanisms of macrophage migration inhibitory factor (MIF)-dependent tumor microenvironmental adaptation. *Exp. Mol. Pathol.* **86(3)**, 180-185 (2009).