MIF Human Hi-5 Insect cells

Product Data Sheet

Type: Recombinant
Source: Hi-5 Insect cells
Species: Human
Other names: GLIF, MMIF, GIF, Glycosylation-inhibiting factor, MIF

Cat. No.:

RBG10222005	(5 µg)
RBG10222020	(20 µg)
RBG10222100	(100 µg)

Description

Macrophage migration inhibitory factor (MIF) is a small secreted protein that can act as a pleiotropic pro-inflammatory cytokine, as well as an enzyme. MIF pro-inflammatory activity can be initiated by signaling through CD74 and CD44, resulting in the secretion of TNF-a, IL-1, IL-6, IL-8, and various MMPs. The enzymatic activity of MIF is characterized by its ability to act as a tautomerase, capable of catalyzing the keto-to-enol isomerization of keto-phenylpyruvate and L-dopachrome. It appears as though MIF catalytic activity is dependent upon a trimeric configuration and a free N-terminal proline residue. Insect cell-derived Recombinant Human MIF is a 15 kDa protein containing 124 amino acid residues, including an N-terminal His-tag.

Introduction to the Molecule

The macrophage migration inhibitory factor (MIF) gene, located on 22q11.2, encodes a multifunctional cytokine, MIF, which is produced by several types of cells, including epithelial cells and cells that participate in the innate and adaptive immune responses. MIF is known to mediate certain cell-mediated immune responses, immune regulation, and inflammation. Overexpression and secretion of MIF help restore macrophage cytokine production and T cell activity in response to the immunosuppressive effects of glucocorticoids. Although first described as an immune cell product, a much higher MIF level was found in kinds of human cancer and cancer-prone inflammatory diseases, including chronic pancreatitis and pancreatic cancer. In addition, many functions of MIF support its potential involvement in diabetes, such as MIF inhibits INS-1 cell proliferation. MIF is a pleiotropic proinflammatory cytokine produced by many cell types such as: T lymphocytes, monocytes/macrophages, vascular endothelia. It is also released from the pituitary which suggests that MIF is also an endocrine factor. Because of its widespread properties it is a crucial mediator of many immune and autoimmune diseases such as: juvenile idiopathic arthritis (JIA), Crohn disease, diabetes type 1, glomerulonephritis, septic shock, inflammatory lung disease and cancer.

Research topic

Autoimmunity, Cytokines and chemokines and related molecules, Oncology

Amino Acid Sequence

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HHHHHHHHAM PMFIVNTNVP RASVPDGFLS ELTQQLAQAT GKPPQYIAVH VVPDQLMAFG GSSEPCALCS LHSIGKIGGA
QNRSYSKLLC GLLAERLRIS PDRVYINYYD MNAANVGWNN STFA
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Source

Hi-5 Insect cells

Purity

98%

Biological Activity

Determined by its ability to inhibit monocyte migration.

Endotoxin

Endotoxin level is <0.1 ng/µg of protein (<1EU/µg).

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at-20°C to -80°C.

Storage, Stability/Shelf Life

-20°C

HEADQUARTERS: BioVendor Laboratorní medicína, a.s.	Karasek 1767/1	621 00 Brno CZECH REPUBLIC	Phone: +420-549-124-185 Fax: +420-549-211-460	E-mail: Web:	info@biovendor.com sales@biovendor.com www.biovendor.com
AUSTRIA: BioVendor GesmbH	Nußdorfer Straße 20/10	1090 Vienna AUSTRIA	Phone: +43-1-89090-25 Fax: +43-1-89090-2515	E-mail:	infoAustria@biovendor.com
GERMANY, SWITZERLAND: BioVendor GmbH	Otto-Hahn-Straße 16	34123 Kassel GERMANY	Phone: +49-6221-433-9100 Fax: +49-6221-433-9111	E-mail:	infoEU@biovendor.com
USA, CANADA AND MEXICO: BioVendor LLC	128 Bingham Rd. Suite 1300	Asheville, NC 28806 USA	Phone: +1-828-575-9250 +1-800-404-7807 Fax: +1-828-575-9251	E-mail:	infoUSA@biovendor.com