

Recombinant Human MIF protein

Cat. No. MIF-4742H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human MIF protein was expressed in Escherichia coli.
Species	Human
Source	E.coli
ProteinLength	115
Description	<p>Migration Inhibitory Factor (MIF) is a secreted protein without a cleavable signal sequence and is secreted via a specialized, non-classical pathway. It is secreted by macrophages upon stimulation by bacterial lipopolysaccharide (LPS), or by M.tuberculosis antigens. MIF consists of two α-helices and six β-strands, four of which form a β-sheet. The two remaining β-strands interact with other MIF molecules, creating a trimer. Structure-function studies suggest MIF is bifunctional with segregated topology. The N- and C-termini mediate enzyme activity (in theory). Phenylpyruvate tautomerase activity (enol-to-keto) has been demonstrated and is dependent upon Pro at position 1. Amino acids 50-65(a.a.) have also been suggested to contain thiol-protein oxidoreductase activity. MIF has proinflammatory cytokine activity centered around (a.a.) 49 - 65. On fibroblasts, MIF induces, IL-1, IL-8 and MMP expression; on macrophages, MIF stimulates NO production and TNF-α release following IFN-γ activation. MIF apparently acts through CD74 and CD44, likely in some form of trimeric interaction. Human MIF is active on mouse cells. Human MIF is 90%, 94%, 95%, and 90% aa identical to mouse, bovine, porcine and rat MIF, respectively.</p>

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Form	Lyophilized from a 0.2µm filtered concentrated solution in PBS, pH 7.4.
Bio-activity	Fully biologically active when compared to standard. The specific activity is determined by binding rhCD74 in a functional ELISA.
Molecular Mass	Approximately 12.5 kDa, a single non-glycosylated polypeptide chain containing 115 amino acids.
AA Sequence	MPMFIVNTNVPRASVPDGFLSELTQQLAQATGKPPQYIAVHVVPDQLMAFGGSSEP CALCSLHSIGKIGGAQNRSYSKLLCGLLAERLRISPDRVYINYYDMNAANVGWNNST FA
Endotoxin	Less than 1 EU/g of rHuMIF as determined by LAL method.
Purity	>97% by SDS-PAGE and HPLC analysis.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤-20 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

Gene Name MIF

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Official Symbol	MIF
Synonyms	MIF; macrophage migration inhibitory factor (glycosylation-inhibiting factor); GLIF; macrophage migration inhibitory factor; GIF; L-dopachrome isomerase; L-dopachrome tautomerase; phenylpyruvate tautomerase; MMIF;
Gene ID	4282
mRNA Refseq	NM_002415
Protein Refseq	NP_002406
MIM	153620
UniProt ID	P14174

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