Technical Data Sheet

Recombinant Human Migration Inhibitor Factor (rHu MIF)

Human Migration Inhibitory Factor

Human 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 have also been suggested to contain thiol-protein oxidoreductase activity. MIF has proinflammatory cytokine activity centered around aa's 49 - 65. On fibroblasts, MIF induces, IL-1, IL-8 and MMP expression; on macrophages, MIF stimulates NO production and TNF-α release folllowing 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.

Catalog Number:	RC712-14
Source:	*Escherichia coli*
Molecular Weight:	Approximately 13.5 kDa, a single non-glycosylated polypeptide chain containing 123 amino acids.
Quantity:	10μg /50μg /1mg
Purity:	>95% by SDS-PAGE and HPLC analyses.
Biological Activity:	Fully biologically active measured by its ability to bind rhCD74 in a functional ELISA.
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation:	Lyophilized from a 0.2μm filtered concentrated (1mg/ml) solution in PBS, pH 7.4.
AA Sequence:	MPMFIVNTNVPRASVPDGFLSELTQQLAQATGKPPQYIAVHVVPDQLMAFG GSSEPCALCSLHSIGKIGGAQNRSYSKLLCGLLAERLRISPDRVYINYYDMN AANVGWNNSTFALEHHHHHH
Endotoxin:	Less than 1EU/μg of rHuMIF as determined by LAL method.
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°C. Further dilutions should be made in appropriate buffered solutions.
Storage:	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable

for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. **Avoid repeated freeze/thaw cycles**.

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