

# **Biotinylated Recombinant Human Macrophage Migration Inhibitory Factor, His, Avi (rHuMIF, His, Avi, Biotinylated)**

## **PrimeGene Technical Data Sheet**

<b>Catalog Number:</b>	601-03C
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 15.4 kDa, a single non-glycosylated polypeptide chain containing 136 amino acids, with 6 × His and Avi tag at the C-terminus.
<b>Quantity:</b>	10μg/100μg/500μg
<b>AA Sequence:</b>	MPMFIVNTNV PRASVPDGLF SELTQQLAQA TGKPPQYIAV HVVPDQLMAF GGSSEPCALC SLHSIGKIGG AQNRSYSKLL CGLLAERLRI SPDRVYINYY DMNAANVGWN NSTFAHHHHH HGLNDIFEAQ KIEWHE
<b>Purity:</b>	> 97 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Fully biologically active when compared to standard. The specific activity is determined by binding rhCD74 in a functional ELISA.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.0, 5 % Trehalose, 0.02 % Tween-20.
<b>Endotoxin:</b>	Less than 0.1 EU/μg of rHuMIF, His, Avi, Biotinylated as determined by LAL method.
<b>Reconstitution:</b>	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.
<b>Shipping:</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage:</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"><li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li><li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	This material is offered by Shanghai PrimeGene Bio-Tech for research, laboratory or further evaluation purposes. <b>NOT FOR HUMAN USE.</b>

### ***Human Macrophage Migration Inhibitory Factor***

Migration Inhibitory Factor (MIF) is a secreted protein without a cleavable signal sequence and is secreted via a specialized, nonclassical 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 49 - 65(a.a.). 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 % a.a. identical to mouse, bovine, porcine and rat MIF, respectively.