

## MIF

### Recombinant Human Migration Inhibitor Factor

<b>Catalog No.</b>	CSI20147A	<b>Quantity:</b>	10 µg
	CSI20147B		50 µg
	CSI20147C		1.0 mg

**Alternate Names:** GIF, GLIF, MMIF, glycosylation-inhibiting factor, phenylpyruvate tautomerase

**Description:** Recombinant Human MIF is a single non-glycosylated polypeptide chain containing 115 amino acids.  
 Background: Migration Inhibitory Factor (MIF) consists of two alpha-helices and six beta-strands, four of which form a beta-sheet. The two remaining beta-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 (enolto-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-alpha release following IFN-gamma 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.

**Gene ID:** 4282

**Source:** *E. coli*

**Molecular Weight:** ~12.5 kDa

**Formulation:** Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.

**Purity:** >97% by SDS-PAGE and HPLC

**Endotoxin Level:** Less than 1 EU/µg of recombinant human MIF as determined by LAL method.

**Biological Activity:** Fully biologically active when compared to standard. The specific activity is determined by binding rhCD74 in a functional ELISA.

**Amino Acid Sequence:** MPMFIVNTNV PRASVPDGFL SELTQQLAQA TGKPPQYIAV HVVPDQLMAF  
 GGSSEPCALC SLHSIGKIGG AQNRSYSKLL CGLLAERLRI SPDRVYINYY  
 DMNAANVGWN NSTFA

**Reconstitution:** **Centrifuge vial prior to opening.** 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 & Stability:** 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.**

**NOT FOR HUMAN USE. FOR RESEARCH ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.**

