Datasheet

Cat. No. P1662

Recombinant Human Macrophage Migration Inhibitory Factor, Avi

Information

Gene ID	
Accession #	
Alternate Names	
Source	Escherichia coli.
M.Wt	Approximately 14.3 kDa, a single non-glycosylated polypeptide chain containing 130 amino acids, with Avi tag at the C-terminus.
AA Sequence	MPMFIVNTNV PRASVPDGFL SELTQQLAQA TGKPPQYIAV HVVPDQLMAF GGSSEPCALC SLHSIGKIGG AQNRSYSKLL CGLLAERLRI SPDRVYINYY DMNAANVGWN NSTFAGLNDI FEAQKIEWHE
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 12 months from date of receipt, -20 to -70 °C as supplied - 1 month, 2 to 8 °C under sterile conditions after reconstitution - 3 months, -20 to -70 °C under sterile conditions after reconstitution
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.0, 5 % Trehalose, 0.02 % Tween-20.
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.
Biological Activity	Fully biologically active when compared to standard. The specific activity is determined by binding rhCD74 in a functional ELISA.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	10μg	100μg	500μg
Recombinant Human Macrophage Migration Inhibitory Factor, Avi	10μg	100μg	500μg

Use a manual defrost freezer and avoid repeated freeze-thaw cycles
- 12 months from date of receipt, -20 to -70 °C as supplied
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 3 months, -20 to -70 °C under sterile conditions after reconstitution

Quality Control

Purity	> 97 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rHuMIF, Avi as determined by LAL method.

Description

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

Reference

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