10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MIF

Catalog # PVGS1656

Product Information

Primary Accession	P34884
Species	Mouse
Sequence	Met1- Ala115
Purity	> 96% as analyzed by SDS-PAGE > 96% as analyzed by HPLC
Endotoxin Level	
Expression System	E. coli
Theoretical Molecular Weight	12.5 kDa
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, pH 7.4, 1 mM DTT.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -20°C or -70°C. Upon reconstitution, the product should be stable for up to 1 week at 2-8°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	17319
Other Names	Macrophage migration inhibitory factor, MIF, 5.3.2.1, Delayed early response protein 6, DER6, Glycosylation-inhibiting factor, GIF, L-dopachrome isomerase, L-dopachrome tautomerase, 5.3.3.12, Phenylpyruvate tautomerase, Mif {ECO:0000303|PubMed:8413654, ECO:0000312|MGI:MGI:96982}
Target Background	Macrophage migration inhibitory factor (MIF or MMIF), also named as glycosylation-inhibiting factor (GIF), L-dopachrome isomerase, or phenylpyruvate tautomerase, is a protein encoded by the MIF gene. It is released from white blood cells by bacterial antigen stimulation to trigger an acute immune response, or by glucocorticoids to counter-act the inhibitory effects of glucocorticoids on immune system. MIF is a homotrimer of which each subunit contains 115 amino acids. As mentioned above, MIF is involved in the innate immune response to bacterial pathogens and counter-acts the anti-inflammatory activity of glucocorticoids. Furthermore, it also plays a role as mediator in regulating the function of macrophages in host defense and has phenylpyruvate tautomerase and dopachrome tautomerase activity in

vitro. Mouse MIF is active on human cells, while human MIF is active on mouse cells. Mouse MIF is 99 %, 84 %, 90 %, and 90 % a.a. identical to rat, porcine, bovine and human MIF, respectively.

Protein Information

Name	Mif {ECO:0000303|PubMed:8413654, ECO:0000312|MGI:MGI:96982}
Function	Pro-inflammatory cytokine involved in the innate immune response to bacterial pathogens (By similarity). The expression of MIF at sites of inflammation suggests a role as mediator in regulating the function of macrophages in host defense (By similarity). Counteracts the anti-inflammatory activity of glucocorticoids (By similarity). Has phenylpyruvate tautomerase and dopachrome tautomerase activity (in vitro), but the physiological substrate is not known (PubMed:10933783, PubMed:16780921, PubMed:19188446). It is not clear whether the tautomerase activity has any physiological relevance, and whether it is important for cytokine activity (PubMed:10933783, PubMed:16780921, PubMed:19188446).
Cellular Location	Secreted. Cytoplasm {ECO:0000250|UniProtKB:P14174} Note=Does not have a cleavable signal sequence and is secreted via a specialized, non-classical pathway. Secreted by macrophages upon stimulation by bacterial lipopolysaccharide (LPS), or by M.tuberculosis antigens (By similarity). {ECO:0000250|UniProtKB:P14174}