



Technical Data Sheet

Recombinant Murine Granulocyte- Macrophage Colony Stimulating Factor (rMu GM-CSF)

Mouse GM-CSF

GM-CSF was initially characterized as a factor that can support the in vitro colony formation of granulocyte-macrophage progenitors. It is also a growth factor for erythroid, megakaryocyte, and eosinophil progenitors. GM-CSF is produced by a number of different cell types (including T cells, B cells, macrophages, mast cells, endothelial cells, fibroblasts, and adipocytes) in response to cytokine or inflammatory stimuli. On mature hematopoietic cells, GM-CSF is a survival factor for and activates the effector functions of granulocytes, monocytes/macrophages, and eosinophils (1, 2). GM-CSF promotes a Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity (3 - 5). It shows clinical effectiveness in ameliorating chemotherapy-induced neutropenia, and GM-CSF transfected tumor cells are utilized as cancer vaccines (6, 7). The 22 kDa glycosylated GM-CSF, similar to IL-3 and IL-5, is a cytokine with a core of four bundled α -helices (8 - 10). Mature mouse GM-CSF shares 49% - 54% amino acid sequence identity with canine, feline, human, and porcine GM-CSF and 69% with rat GM-CSF. GM-CSF exerts its biological effects through a heterodimeric receptor complex composed of GM-CSF R α /CD116 and the signal transducing common β chain (CD131) which is also a component of the high-affinity receptors for IL-3 and IL-5 (11, 12). In addition, GM-CSF binds a naturally occurring soluble form of GM-CSF R α (13). The activity of GM-CSF is species specific between human and mouse. Mouse GM-CSF is only weakly active on rat cells, although rat GM-CSF is fully active on mouse cells (14, 15).

Catalog Number:	RC233-14
Source:	<i>Escherichia coli</i> .
Molecular Weight:	Recombinant murine GM-CSF is a 14.2 kDa globular protein consisting of 124 amino acids residues.
Quantity:	5ug/20ug/1000 μ g
Purity:	>95% by SDS-PAGE and HPLC analyses.
Biological Activity:	The ED ₅₀ as determined by the dose-dependent stimulation of the proliferation of murine FDC-P1 cells is \leq 0.2 ng/ml, corresponding to a specific activity of \geq 5 x 10 ⁶ units/mg.
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.



Formulation:	Lyophilized from a 0.2 μ m filtered solution in PBS, pH 7.4.
AA Sequence:	MAPTRSPITV TRPWKHVEAI KEALNLLDDM PVTLNEEVEV VSNEFSFKKL TCVQTRLKIF EQGLRGNFTK LKGALNMTAS YYQTYCPPTP ETDCEQVTT YADFIDSLKT FLTDIPFECK KPVQK
Endotoxin:	Less than 1EU/ μ g of rmlL-10 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 \leq -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.
Usage:	This material is offered by Bio Basic Inc. for research, laboratory or further evaluation purposes. NOT FOR HUMAN USE.