



**Recombinant Murine Granulocyte Macrophage Colony Stimulating Factor  
(rmGM-CSF)  
Catalog Number: 122-03**

<b>Description</b>	GM-CSF was initially characterized as a factor that can support the <i>in vitro</i> colony formation of granulocyte-macrophage progenitors. It is also a growth factor for erythroid, megakaryocyte, and eosinophil progenitors. GM-CSF is produced by 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 acts as a prosurvival factor and activates effector functions of granulocytes, monocytes/macrophages, and eosinophils. It promotes a Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity. The 22 kDa glycosylated GM-CSF, similar to IL-3 and IL-5, is a cytokine with a core of four bundled $\alpha$ -helices. 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. 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.
<b>Synonyms</b>	CSF-2, MGI-1GM, GM-CSF, Pluripoietin-alpha, Molgramostin, Sargramostim
<b>AA Sequence</b>	MAPTRSPITV TRPWKHVEAI KEALNLLDDM PVTLNEEVEV VSNEFSFKKL TCVQTRLKIF EQGLRGNFTK LKGALNMTAS YYQTYCPPTP ETD CETQVTT YADFIDSLKT FLTDIPFECK KPVQK
<b>Source</b>	<i>Escherichia coli</i>
<b>Molecular Weight</b>	Approximately 14.2 kDa globular protein consisting of 124 amino acids residues.
<b>Purity</b>	>95% by SDS-PAGE and HPLC analyses.
<b>Biological Activity</b>	Fully biologically active. The ED <sub>50</sub> is $\leq 0.2$ ng/ml, corresponding to a specific activity of $\geq 5 \times 10^6$ units/mg, as determined by murine FDC-P1 cell proliferation.
<b>Physical Appearance</b>	White lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS, pH 7.4.
<b>Endotoxin</b>	< 1EU/ $\mu$ g of growth factor as determined by LAL method.
<b>Reconstitution</b>	Reconstitute in sterile distilled water containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL.
<b>Storage</b>	Store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.
<b>Usage</b>	This product is for research use only. It is not approved for use in humans, animals, or <i>in vitro</i> diagnostic procedures.