



**Recombinant Rat Granulocyte Macrophage Colony Stimulating Factor
(rrGM-CSF)
Catalog Number: 142-03**

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| Description | 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. Mouse GM-CSF is only weakly active on rat cells, although rat GM-CSF is fully active on mouse cells. Rat GM-CSF and mouse GM-CSF shares 69% amino acid sequence identity. |
| Synonyms | CSF-2, MGI-1GM, GM-CSF, Pluripoietin-alpha, Molgramostin, Sargramostim |
| AA Sequence | MAPTRSPNPV TRPWKHVDAI KEALSLLNDM RALENEKNED VDIISNEFSI QRPTCVQTRL KLYKQGLRGN LTKLNGALTM IASHYQTNCP PTPETDCEIE VTFEDFIKN LKGFLFDIPF DCWKPVQK |
| Source | <i>Escherichia coli</i> |
| Molecular Weight | Approximately 14.5 kDa globular protein consisting of 128 amino acids residues. |
| Purity | >98% by SDS-PAGE and HPLC analyses. |
| Biological Activity | Fully biologically active. The ED ₅₀ is < 0.01 ng/ml, corresponding to a specific activity of > 1.0 x 10 ⁸ units/mg, as determined by murine FDC-P1 cell proliferation. |
| Physical Appearance | White lyophilized powder. |
| Formulation | Lyophilized from a 0.2µm filtered solution in PBS, pH 7.4. |
| Endotoxin | < 1EU/µg of growth factor as determined by LAL method. |
| Reconstitution | Reconstitute in sterile distilled water containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. |
| Storage | 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. |
| Usage | This product is for research use only. It is not approved for use in humans, animals, or <i>in vitro</i> diagnostic procedures. |