



## Genemed Synthesis, Inc.

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### Product Data Sheet

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<b>Cat #</b> SB-003-10	Recombinant Human Granulocyte Macrophage Colony Stimulating Factor (GM-CSF)	<b>Size:</b> 10 ug
<b>Cat #</b> SB-003-50	Recombinant Human Granulocyte Macrophage Colony Stimulating Factor (GM-CSF)	<b>Size:</b> 50 ug

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#### Background:

GM-CSF was initially characterized as a growth factor that can support the in vitro colony formation of granulocyte-macrophage progenitors. It is produced by a number of different cell types (including activated T cells, B cells, macrophages, mast cells, endothelial cells and fibroblasts) in response to cytokine of immune and inflammatory stimuli. Besides granulocyte-macrophage progenitors, GM-CSF is also a growth factor for erythroid, megakaryocyte and eosinophil progenitors. On mature hematopoietic, monocytes/ macrophages and eosinophils. GM-CSF has also been reported to have a functional role on non-hematopoietic cells. It can induce human endothelial cells to migrate and proliferate. Additionally, GM-CSF can also stimulate the proliferation of a number of tumor cell lines, including osteogenic sarcoma, carcinoma and adenocarcinoma cell lines.

#### Description:

GM-CSF is a highly purified protein with a molecular weight of approximately 14kDa. It contains 123 amino acids residues. The protein is produced by recombinant DNA technology using a genetically engineered *E. coli* strain containing the human GM-CSF gene.

#### Quality Control:

**Biological activity:** The ED50 as determined by the dose-dependant stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line) is less than 0.1 ng/ml, corresponding to a Specific Activity of  $1.0 \times 10^7$  IU/ mg.

**Purity:** Greater than 95% as determined by

(a) Analysis by SEC-HPLC.

(b) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

**Isoelectric Point:** the main zone between 4.5~5.7 analysis by IEF.

**Amino-Acid Sequence:** The sequence of the first fifteen N-terminal amino acids was determined and was found to be (Met)-Ala-Pro-Ala-Arg-Ser-Pro-Ser-Pro-Ser-Thr-Gln-Pro-Trp-Glu-His.

**Endotoxin:** Less than 0.03ng/ $\mu$ g (0.03IEU/ $\mu$ g) determined by LAL test.

**Formulation:** The protein was lyophilized after extensive dialysis against 2mM sodium phosphate buffer pH=7.4+/-0.1.

**Storage:** Lyophilized rHuGM-CSF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rHuGM-CSF should be stored at 4°C between 2-7 days and for future use below -18°C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please avoid freeze-thaw cycles.**

**Reconstitution:** It is recommended to reconstitute the lyophilized rHuGM-CSF in sterile 18M $\Omega$ -cm H<sub>2</sub>O not less than 100 $\mu$ g/ml, which can then be further diluted to other aqueous solutions

#### Usage:

This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals. If supplied in powder then reconstitute it in 100 ul water for 1 mg/ml stock and store in liquid at 4°C for ~1 week or aliquots in suitable size and store at -20°C for long term storage..

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