

**Product:** **Animal Free Recombinant Human GM-CSF**  
**Cat #: 300-808P**  
Powder

Description	Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) is hematopoietic factor produced by endothelial cells, monocytes, fibroblasts and T cells in response to a number of inflammatory mediators. GM-CSF is able to stimulate the production of neutrophilic granulocytes, macrophages, and mixed granulocyte-macrophage colonies from bone marrow cells. GM-CSF can also stimulate some functional activities in mature granulocytes and macrophages. Human and mouse GM-CSF show no cross-reactivity. Alternate names: CSF-2, Pluripoietin- $\alpha$ , MGI1GM
	This product is produced with no animal-derived raw products, animal free equipment and animal free protocols.
MW	Non-glycosylated protein, containing 128 amino acids, with a molecular weight of 14.6 kDa.
Physical Appearance	Sterile filtered white lyophilized (freeze-dried) powder.
Source	<i>E. coli</i>
Formulation	Recombinant human GM-CSF is lyophilized from 10 mM Na <sub>2</sub> PO <sub>4</sub> , pH 7.5.
Reconstitution	Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile water at a concentration of 0.1 mg/mL, which can be further diluted into other aqueous solutions.
Stability	Lyophilized product is very stable at -20°C. Reconstituted material should be aliquoted and frozen at -20°C. It is recommended that a carrier protein (0.1% HSA or BSA) is added for long term storage.
Biological Activity	The activity is determined by the dose-dependent induction of human TF-1 cell proliferation and is typically less than 0.1 ng/mL.
Endotoxin Level	Measured by kinetic LAL analysis and is typically $\leq$ 1 EU/ $\mu$ g protein.
AA Sequence	MAPARSPSPS TQPWEHVNAI QEARRLLNLS RDAAEMNET VEVISEMFDL QEPTCLQTRL ELYKQGLRGS LTKLKGPLTM MASHYKQHCP PTPETSCATQ IITFESFKEN LKDFLLVIPF DCWEPVQE

Purity greater than 95% determined by Reducing and Non-reducing SDS-PAGE, UV spectroscopy at 280 nm.

Protein content determined by Reducing and Non-reducing SDS-PAGE, UV spectroscopy at 280 nm.

**THIS PRODUCT IS FOR RESEARCH USE ONLY AND IS NOT FOR USE IN HUMANS!**