

## Active Recombinant Human CSF2, His-tagged, Animal Free

Cat. No. CSF2-143H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** rHuman GM-CSF is a glycosylated polypeptide chain containing 127 amino acids (18-144 aa CSF2\_HUMAN P04141 ), fused to 10 His tag at N-terminal. rHuman GM-CSF migrate as a broad band between 15 and 25 kDa due to post-translation modification, in particular glycosylation. Human recombinant protein expressed in Nicotiana benthamiana. Recombinant human Granulocyte-macrophage colony-stimulating factor (GM-CSF) contains a 10-His-tag at the N-terminal end, is produced by transient expression in non-transgenic plants and is purified by sequential chromatography (FPLC). This product contains no animal-derived components or impurities. Animal free product.

**Species** Human

**Source** Nicotiana Benthamiana

**ProteinLength** 18-144 a.a.

**Description** GMCSF is a cytokine that stimulates the growth and differentiation of hematopoietic precursor cells from various lineages, including granulocytes, macrophages, eosinophils and erythrocytes. It's involved in differentiation of dendritic cells and is a key factor in differentiation pathways leading form stem cells. GMCSF is produced by several cell types as monocytes, fibroblasts, endothelial cells and T-Lymphocytes in response to a number of inflammatory mediators present in the hemopoietic environment and peripheral site of inflammation. Human GMCF is an important therapeutic cytokine used in the treatment of myeloid leukemia,

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neutropenia and aplastic anemia and it could become interesting in the treatment following bone marrow transplantation. It performs its biological activity by binding to a specific receptor complex which is composed of a cytokine-specific alpha chain and beta chain, shared with the receptors for interleukin-3 and interleukin-5. GMCSR has been identified to mediate the activation of Jak-Stat and MAPK pathways.

**Form** Recombinant human GM-CSF is lyophilized from 10 mM PBS buffer pH 7.6 and 0.2 M NaCl.

**Bio-activity** The activity of recombinant human GM-CSF is determined by the dose-dependent induction of human TF-1 proliferation cell \*Cell proliferation was measured by MTT method. ED50 is  $\leq 0.05$  ng/mL.

**Molecular Mass** rHuman GM-CSF is a glycosylated polypeptide chain containing 127 amino acids (18-144 aa CSF2\_HUMAN P04141 ), fused to 10 His tag at N-terminal. rHuman GM-CSF migrate as a broad band between 15 and 25 kDa due to post-translation modification, in particul

**AA Sequence** HHHHHHHHHHAPARSPSPSTQPWEHVNAIQEARRLLNLSRDAAEMNETVEVISEM  
FDLQEPTCLQTRLELYKQG LRGLTKLKGPLTMMASHYKQHCPPTPETSCATQITF  
ESFKENLKDFLLVIPFDCWEPVQE

**Endotoxin** < 0.04="" eu="" ug="" protein="" (lal="">

**Purity** >97% by SDS-PAGE gel

**Applications** Cell culture, Western Blot.

**Storage** This lyophilized preparation is stable at 2-8o C for short term, long storage it should

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be kept at -20°C. Reconstituted rh GM-CSF should be stored in working aliquots at -20°C. Repeated freezing and thawing is not recommended.

**Reconstitution**

Lyophilized protein should be reconstituted in water to a concentration of 25-50 ng / µl. Optimal concentration should be determined for specific application and cell lines. Optimal reconstitution please follow batch Quality Control sheet instructions.

## GENE INFORMATION

<b>Gene Name</b>	CSF2 colony stimulating factor 2 (granulocyte-macrophage) [ Homo sapiens ]
<b>Official Symbol</b>	CSF2
<b>Synonyms</b>	CSF2; colony stimulating factor 2 (granulocyte-macrophage); granulocyte-macrophage colony-stimulating factor; GM CSF; GMCSF; granulocyte macrophage colony stimulating factor; molgramostin; sargramostim; CSF; colony-stimulating factor; granulocyte-macrophage colony stimulating factor; MGC131935; MGC138897;
<b>Gene ID</b>	1437
<b>mRNA Refseq</b>	NM_000758
<b>Protein Refseq</b>	NP_000749
<b>MIM</b>	138960
<b>UniProt ID</b>	P04141
<b>Chromosome Location</b>	5q23-q31

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**Pathway**


Amoebiasis, organism-specific biosystem; Amoebiasis, conserved biosystem; Calcineurin-regulated NFAT-dependent transcription in lymphocytes, organism-specific biosystem; Calcium signaling in the CD4+ TCR pathway, organism-specific biosystem; Cytokine Signaling in Immune system, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem;

**Function**

cytokine activity; granulocyte macrophage colony-stimulating factor receptor binding; growth factor activity; protein binding;

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