

## Active Recombinant Human GM-CSF

**Cat. No.** CSF3-4H    **Lot. No.** (See product label)

### SPECIFICATION

<b>Product Overview</b>	Recombinant Human GM-CSF protein, expressed in Pichia, with N Terminal Met-Phe-Asn-Leu-Pro Pichia Pastoris
<b>Species</b>	Human
<b>Source</b>	P.pastoris
<b>Description</b>	GMCSF is a cytokine that controls the production, differentiation, and function of granulocytes and macrophages. The active form of the protein is found extracellularly as a homodimer. This gene has been localized to a cluster of related genes at chromosome region 5q31, which is known to be associated with interstitial deletions in the 5q- syndrome and acute myelogenous leukemia. Other genes in the cluster include those encoding interleukins 4, 5, and 13. GM-CSF stimulates the growth and differentiation of hematopoietic precursor cells from various lineages, including granulocytes, macrophages, eosinophils and erythrocytes
<b>Predicted N Terminal</b>	The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Pro-Ala-Arg-Ser.
<b>Form</b>	The protein was lyophilized from a concentrated (1mg/ml) solution containing 10mM phosphate buffer pH 7.0, 40 mg mannitol and 10 mg sucrose.
<b>Bio-activity</b>	The ED50 as determined by the dose-dependent stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line) is < 0.183 ng/ml

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corresponding to a specific activity of 5 x 10<sup>6</sup>

**Molecular Mass**

Granulocyte Macrophage Colony Stimulating Factor Human Recombinant produced in Yeast is a single, glycosylated, polypeptide chain containing 127 amino acids and having a molecular mass of 26-32 kDa. rhGM-CSF differs from the natural human GM-CSF by a substitution of leucine at position 23 (R to L), and the carbohydrate moiety may be different from the native protein. GM-CSF is purified by proprietary chromatographic techniques.

**Purity**

Greater than 97.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.

**Usage**

FOR RESEARCH USE ONLY

**Quality Control Test**

Lyophilized Granulocyte Macrophage Colony Stimulating Factor although stable at room temperature for 3 weeks, should be stored desiccated below -18 centigrade. Upon reconstitution GM-CSF should be stored at 4 centigrade between 2-7 days and for future use below -18 centigrade. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Concentration**

1mg/ml

**Reconstitution**

It is recommended to reconstitute the lyophilized Granulocyte Macrophage Colony Stimulating Factor in sterile 18MΩ-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

**Warning**

Avoid repeated freeze-thaw cycles.

## GENE INFORMATION

**Gene Name**

CSF3 colony stimulating factor 3 (granulocyte) [ Homo sapiens ]

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<b>Official Symbol</b>	CSF3
<b>Synonyms</b>	CSF3; colony stimulating factor 3 (granulocyte); C17orf33, chromosome 17 open reading frame 33, G CSF, GCSF; granulocyte colony-stimulating factor; filgrastim; granulocyte colony stimulating factor; lenograstim; MGC45931; pluripoiectin; GCSF; CSF3OS; C17orf33;
<b>Gene ID</b>	1440
<b>mRNA Refseq</b>	NM_000759
<b>Protein Refseq</b>	NP_000750
<b>MIM</b>	138970
<b>UniProt ID</b>	P09919
<b>Chromosome Location</b>	17q11.2-q12
<b>Pathway</b>	Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Cytokines and Inflammatory Response, organism-specific biosystem; Hematopoietic cell lineage, organism-specific biosystem; Hematopoietic cell lineage, conserved biosystem; Jak-STAT signaling pathway, organism-specific biosystem; Jak-STAT signaling pathway, conserved biosystem;
<b>Function</b>	cytokine activity; cytokine activity; enzyme binding; granulocyte colony-stimulating factor receptor binding; growth factor activity;

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