

Active Recombinant Human GM-CSF

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

SPECIFICATION

Product Overview	Recombinant Human GM-CSF protein, expressed in Pichia, with N Terminal Met-Phe-Asn-Leu-Pro Pichia Pastoris
Species	Human
Source	P.pastoris
Description	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 identified as 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.
Predicted N Terminal	The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Pro-Ala-Arg-Ser.
Form	The protein was lyophilized from a concentrated (1mg/ml) solution containing 10mM phosphate buffer pH 7.0, 40 mg mannitol and 10 mg sucrose.
Bio-activity	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="" 106="">

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 H₂O 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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Official Symbol	CSF3
Synonyms	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; pluripoietin; GCSF; CSF3OS; C17orf33;
Gene ID	1440
mRNA Refseq	NM_000759
Protein Refseq	NP_000750
MIM	138970
UniProt ID	P09919
Chromosome Location	17q11.2-q12
Pathway	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;
Function	cytokine activity; cytokine activity; enzyme binding; granulocyte colony-stimulating factor receptor binding; growth factor activity;