

Active Recombinant Human CSF2, His tagged, Animal Free

Cat. No. CSF2-88H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Human recombinant protein expressed in *Nicotiana benthamiana*. It is produced by transient expression in non-transgenic plants and is purified by sequential chromatography (FPLC). 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. This product contains no animal-derived components or impurities. Animal Free product.

Species Human

Source *Nicotiana Benthamiana*

Description

GM-CSF is a cytokine that stimulates the growth and differentiation of hematopoietic precursor cells from various lineages, such as granulocytes, macrophages, eosinophils and erythrocytes. Is involved in differentiation of dendritic cells and is a key factor in differentiation pathways leading from stem cells. GM-CSF is produced by several cell types as monocytes, fibroblast, endothelial cells and T-Lymphocytes in response to a number of inflammatory mediators present in the hematopoietic environment and peripheral site of inflammation. Human GM-CSF is an important therapeutic cytokine used in the treatment of myeloid leukemia, neutropenia and aplastic anemia and it could become interesting in the treatment following bone marrow transplantation. It performs biological activity by binding to a receptor 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. GM-CSF has been identified to mediate the activation of Jak-Stat and MAPK pathways.

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Form	Recombinant human GM-CSF is lyophilized from 10mM PBS buffer pH 7.6 and 0.2 M NaCl.
Bio-activity	Biological Activity:1. Effect of GM-CSF on human TF-1 cells;2. Effect of GM-CSF on kerotino cytesmigration (HaCaT cells); 3. Collagen I expression profile performed on keratinocytes (HaCaT cells); 4. Effect of GM-CSF on Human fibroblast cell proliferation.
Molecular Mass	Between 15 and 25 kDa due to post-translation modification, in particular glycosilation.
AA Sequence	HHHHHHHHHHAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVISEM FDLQEPTCLQTRLELYKQG LRGSCLKLKGPLTMMASHYKQHCPPTPETSCATQIITF ESFKENLKDFLLVIFDCWEPVQE
Endotoxin	< 0.04="" eu/μg="" protein="" (lal="">
Purity	>97% by SDS-PAGE gel
Applications	Cell culture. Western Blot. Immunogen. Dermocosmetics (rh CFS stimulates fibroblast cell proliferation, kerotinocytes migration (HaCaT cells) and induces Collagen I expression in keratinocytes).
Stability	Lyophilized protein remains stable until the expiry date when stored at –20°C.
Storage	Store lyophilized protein at –20°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at –80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after one week at 4°C.

Reconstitution

Lyophilized protein should be reconstituted in water following instructions of batch Quality Control sheet. At higher concentrations the solubility may be reduced and multimers generated. Optimal concentration should be determined for specific application.

GENE INFORMATION

Gene Name	CSF2 colony stimulating factor 2 (granulocyte-macrophage) [Homo sapiens]
Official Symbol	CSF2
Synonyms	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;
Gene ID	1437
mRNA Refseq	NM_000758
Protein Refseq	NP_000749
MIM	138960
UniProt ID	P04141
Chromosome Location	5q23-q31
Pathway	Amoebiasis, organism-specific biosystem; Amoebiasis, conserved biosystem; Calcineurin-regulated NFAT-dependent transcription in lymphocytes, organism-

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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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