

Active Recombinant Human CSF2 Protein (Ala18-Glu144), GMP Grade, Animal-Free

Cat. No. CSF2-31HG Lot. No. (See product label)

SPECIFICATION

Product Overview	GMP recombinant human GM-CSF protein (Ala18-Glu144) without tag was expressed in E. coli, produced in an Animal-Free laboratory and manufactured and tested under cGMP guidelines.
Species	Human
Source	E.coli
ProteinLength	Ala18-Glu144
Description	The protein encoded by this gene 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. This gene plays a role in promoting tissue inflammation. Elevated levels of cytokines, including the one produced by this gene, have been detected in SARS-CoV-2 infected patients that develop acute respiratory distress syndrome. Mice deficient in this gene or its receptor develop pulmonary alveolar proteinosis.
Bio-activity	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is 6-30 pg/mL.

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	The specific activity of recombinant human GM-CSF is $>1.0 \times 10^7$ IU/mg, which is calibrated against the human GM-CSF WHO International Standard.
Molecular Mass	Predicted Molecular Mass: 14.5 kDa SDS-PAGE: 14 kDa, reducing conditions
N-terminal Sequence Analysis	Ala-Pro-Ala-Arg-Ser-Pro-Ser-Pro-Ser-Thr
Endotoxin	<0.10 EU/ μ g of the protein by the LAL method.
Purity	$>97\%$, by SDS-PAGE under reducing conditions and visualized by silver stain.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. A minimum of 12 months when stored at ≤ -20 centigrade as supplied. Refer to lot specific COA for the Use by Date. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, ≤ -20 centigrade under sterile conditions after reconstitution.
Storage Buffer	Lyophilized from a $0.2 \mu\text{m}$ filtered solution in PBS.
Reconstitution	Reconstitute at 100-200 $\mu\text{g/mL}$ in PBS.
Shipping	The product is shipped with polar packs.

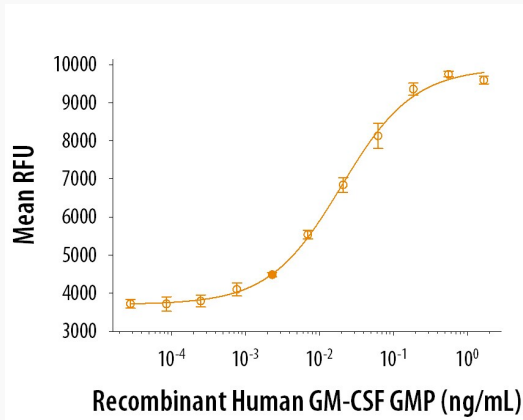
GENE INFORMATION

Gene Name	CSF2 colony stimulating factor 2 (granulocyte-macrophage) [Homo sapiens]
Official Symbol	CSF2

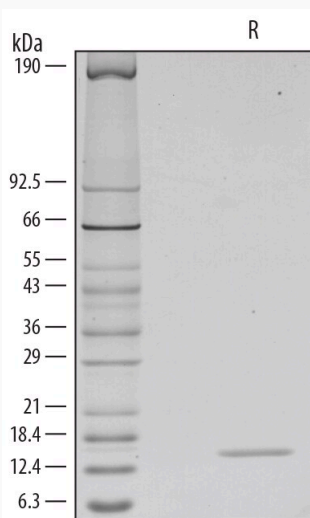
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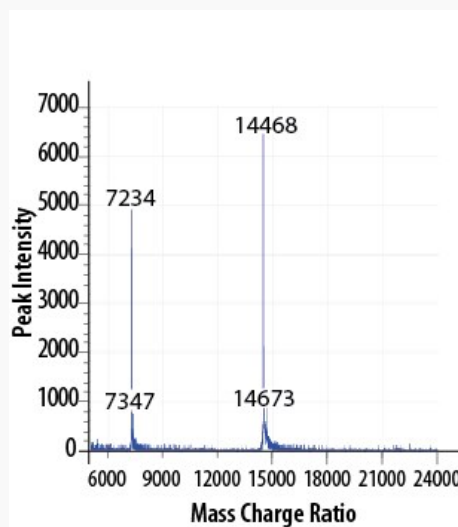
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Synonyms	CSF2; colony stimulating factor 2 (granulocyte-macrophage); granulocyte-macrophage colony-stimulating factor; GM CSF; GMCSF; granulocyte macrophage colony stimulating factor; molgramostin; sargramostim; CSF; colony-stimulating factor; granulocyte-macrophage colony stimulating factor; MGC131935; MGC138897;												
Gene ID	1437												
mRNA Refseq	NM_000758												
Protein Refseq	NP_000749												
MIM	138960												
UniProt ID	P04141												
Bioactivity	 The graph displays a dose-response curve for Recombinant Human GM-CSF GMP. The x-axis represents the concentration in ng/mL on a logarithmic scale from 10⁻⁴ to 10⁰. The y-axis represents the Mean RFU (Relative Fluorescence Units) from 3000 to 10000. The data points, marked with orange squares and error bars, show a sigmoidal increase in RFU as the concentration of GM-CSF increases, reaching a plateau near 10000 RFU at 10⁰ ng/mL. <table border="1"> <caption>Approximate data points from the bioactivity graph</caption> <thead> <tr> <th>Recombinant Human GM-CSF GMP (ng/mL)</th> <th>Mean RFU</th> </tr> </thead> <tbody> <tr><td>10⁻⁴</td><td>~3800</td></tr> <tr><td>10⁻³</td><td>~4500</td></tr> <tr><td>10⁻²</td><td>~6800</td></tr> <tr><td>10⁻¹</td><td>~9200</td></tr> <tr><td>10⁰</td><td>~9800</td></tr> </tbody> </table>	Recombinant Human GM-CSF GMP (ng/mL)	Mean RFU	10 ⁻⁴	~3800	10 ⁻³	~4500	10 ⁻²	~6800	10 ⁻¹	~9200	10 ⁰	~9800
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SDS-PAGE



Mass Spectrometry



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