

## Active Recombinant Human CSF2 Protein (Ala18-Glu144), N-His tagged, Animal-free, Carrier-free

**Cat. No.** CSF2-28H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant Human CSF2 Protein (Ala18-Glu144) with N-His tag was expressed in E. coli and Animal-free as well as Carrier-free.                                                                                                                                                                                                                                                                                                                                                            |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>ProteinLength</b>    | Ala18-Glu144                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Description</b>      | Granulocyte-macrophage colony-stimulating factor (GM-CSF) was first identified as a Growth Factors due to its ability to induce proliferation and differentiation of bone marrow progenitors into granulocytes and macrophages. GM-CSF is produced by multiple cell types including activated T cells, B cells, macrophages, endothelial cells and fibroblasts upon receiving immune stimuli. GM-CSF stimulates stem cells to produce granulocytes and monocytes functions as a cytokine. |
| <b>Form</b>             | Lyophilized                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Bio-activity</b>     | Measure by its ability to induce TF-1 cells proliferation. The ED50 for this effect is < 80 pg/mL. The specific activity of recombinant human GM-CSF is approximately >1 × 10 <sup>7</sup> IU/mg.                                                                                                                                                                                                                                                                                         |
| <b>Molecular Mass</b>   | The protein has a calculated MW of 15.4 kDa.<br>The protein migrates as 15 kDa under reducing condition (SDS-PAGE analysis).                                                                                                                                                                                                                                                                                                                                                              |

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|                       |                                                                                                                                                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Endotoxin</b>      | < 0.1 EU/μg of the protein by the LAL method.                                                                                                                                                                                                                    |
| <b>Purity</b>         | >98% as determined by SDS-PAGE analysis.                                                                                                                                                                                                                         |
| <b>Storage</b>        | <p>This product is stable after storage at:</p> <p>-20 centigrade for 12 months in lyophilized state from date of receipt.</p> <p>-20 or -80 centigrade for 1 month under sterile conditions after reconstitution.</p> <p>Avoid repeated freeze/thaw cycles.</p> |
| <b>Storage Buffer</b> | Lyophilized from a 0.2 μm filtered solution of PBS, pH 8.0.                                                                                                                                                                                                      |
| <b>Reconstitution</b> | It is recommended to reconstitute the lyophilized protein in sterile H <sub>2</sub> O to a concentration not less than 200 μg/mL and incubate the stock solution for at least 20 min to ensure sufficient re-dissolved.                                          |
| <b>Shipping</b>       | The product is shipped with polar packs. Upon receipt, store it immediately at -20 centigrade or lower for long term storage.                                                                                                                                    |

## GENE INFORMATION

|                        |                                                                                                                                                                                                                                                                                                                    |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | CSF2 colony stimulating factor 2 (granulocyte-macrophage) [ Homo sapiens (human) ]                                                                                                                                                                                                                                 |
| <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                                                                                                                                                                                                                                                                                                               |

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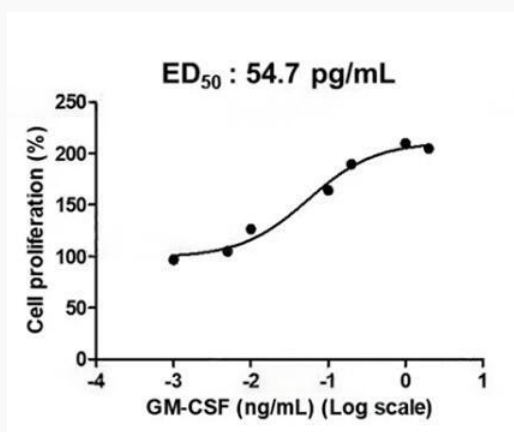
mRNA Refseq [NM\\_000758](#)

Protein Refseq [NP\\_000749](#)

MIM [138960](#)

UniProt ID [P04141](#)

#### Activity



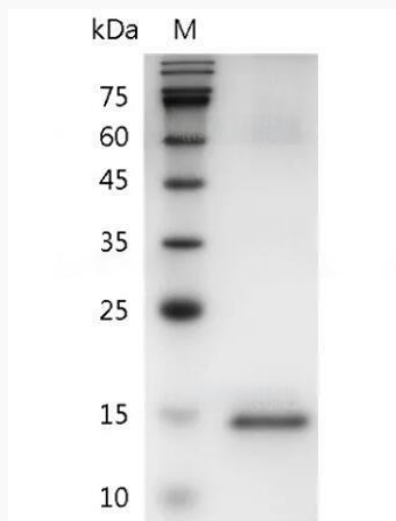
Human GM-CSF, His Tag, E. coli (LDG044PHE) induced TF-1 cell proliferation, with the ED50 at 54.7 pg/mL.

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**SDS-PAGE analysis  
of recombinant  
human GM-CSF.**



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