

# Recombinant Rat Granulocyte-Macrophage Colony Stimulating Factor (Rat GM-CSF)

## Product Information

| Product Name   | Cat#      | Size   |
|--|-----------|--------|
| Recombinant Rat Granulocyte-Macrophage Colony Stimulating Factor<br>(Rat GM-CSF) | 91112ES08 | 5 µg   |
|  | 91112ES60 | 100 µg |
|  | 91112ES76 | 500 µg |

## Product Description

Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF) is a powerful growth and differentiation factor which acts on hematopoietic progenitor cells and also activates differentiated granulocytes and macrophages. The 22 kDa glycosylated GM-CSF, similar to IL-3 and IL-5, is a cytokine with a core of four bundled alpha-helices. Mature human GM-CSF shares 63%-70% amino acid sequence identity with canine, feline, porcine, and rat GM-CSF and 54% with mouse GM-CSF. GM-CSF has been and is still widely used as an adjuvant in clinical trials of vaccination with autologous tumor cells, peptides and/or dendritic cells in a variety of human neoplasms. The effects of GM-CSF on HIV-1 replication in primary monocytes and macrophages, and in related cell lines, have demonstrated augmentation of HIV-1 expression in vitro.

## Product Properties

|                            |   |
|----------------------------|---|
| <b>Synonyms</b>            | Granulocyte/Macrophage Colony-Stimulating Factor, GM-CSF, CSF-2, MGI-1GM, Pluripoietin- $\alpha$  |
| <b>Accession</b>           | P48750  |
| <b>GeneID</b>              | 116630  |
| <b>Source</b>              | E.coli-derived rat GM-CSF protein, Ala18-Lys144.  |
| <b>Molecular Weight</b>    | Approximately 14.5 kDa.   |
| <b>AA Sequence</b>         | APTRSPNPVT RPWKHVDAIK EALSLLNDMR ALENEKNEDV DIISNEFSIQ RPTCVQTRLK<br>LYKQGLRGNL TKLNGALTM I ASHYQTNCPP TPETDCEIEV TTFEDFIKNL KGFLFDIPFD<br>CWKPVQK  |
| <b>Tag</b>                 | None  |
| <b>Physical Appearance</b> | Sterile Filtered White lyophilized (freeze-dried) powder.   |
| <b>Purity</b>              | > 98% by SDS-PAGE and HPLC analyses.  |
| <b>Biological Activity</b> | The ED <sub>50</sub> as determined by a cell proliferation assay using murine FDC-P1 is less than 0.01 ng/mL, corresponding to a specific activity of > 1.0 × 10 <sup>8</sup> IU/mg. Fully biologically active when compared to standard.                                 |
| <b>Endotoxin</b>           | < 1.0 EU per 1µg of the protein by the LAL method.  |
| <b>Formulation</b>         | Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.<br>We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom.  |
| <b>Reconstitution</b>      | Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20°C. Further dilutions should be made in appropriate buffered solutions. |

## Shipping and Storage

The products are shipped with ice pack and can be stored at -20°C to -80°C for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

### **Cautions**

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only!