

# Human GM-CSF Protein

Cat. No. GSF-HE001

## Description

<b>Source</b>	Recombinant Human GM-CSF Protein is expressed from E.coli without tag. It contains Ala18-Glu144.
<b>Accession</b>	P04141
<b>Molecular Weight</b>	The protein has a predicted MW of 14.6 kDa same as Bis-Tris PAGE result.
<b>Endotoxin</b>	Less than 0.1 EU per µg by the LAL method.
<b>Purity</b>	> 95% as determined by Bis-Tris PAGE > 95% as determined by HPLC

## Formulation and Storage

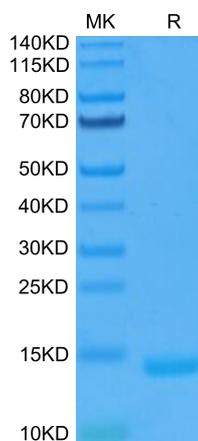
<b>Formulation</b>	Lyophilized from 0.22µm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.
<b>Reconstitution</b>	Centrifuge the tube before opening. Reconstituting to a concentration more than 100 µg/ml is recommended. Dissolve the lyophilized protein in distilled water.
<b>Storage</b>	-20 to -80°C for 12 months as supplied from date of receipt. -80°C for 3 months after reconstitution. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.

## Background

Granulocyte-macrophage colony-stimulating factor (GM-CSF), also known as colony-stimulating factor 2 (CSF2), is a monomeric glycoprotein secreted by macrophages, T cells, mast cells, natural killer cells, endothelial cells and fibroblasts that functions as a cytokine. The pharmaceutical analogs of naturally occurring GM-CSF are called sargramostim and molgramostim.

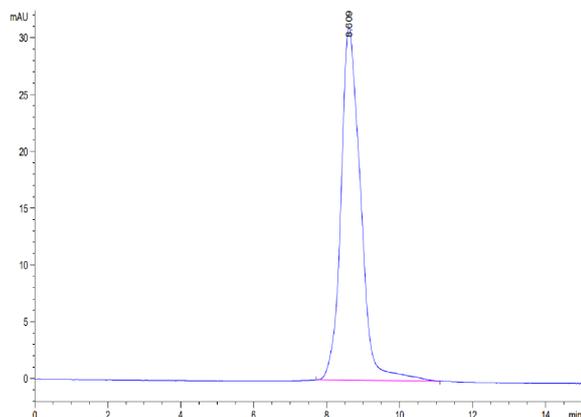
## Assay Data

### Bis-Tris PAGE



Human GM-CSF on Bis-Tris PAGE under reduced condition. The purity is greater than 95%.

### SEC-HPLC

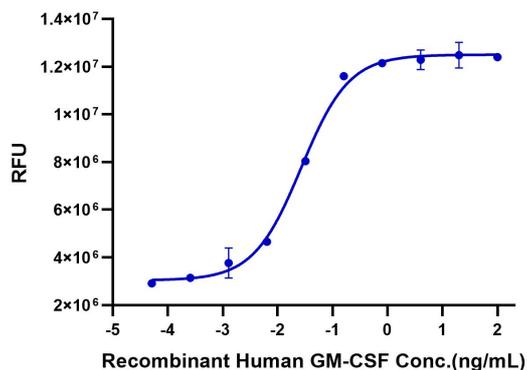


The purity of Human GM-CSF is greater than 95% as determined by SEC-HPLC.

Assay Data

Cell Based Assay

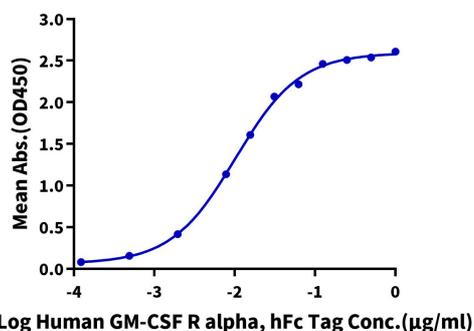
Recombinant Human GM-CSF Bioactivity



The ED50 as determined by the dose-dependent stimulation of the proliferation of human TF-1 cells is 0.02-0.1 ng/mL (QC Test).

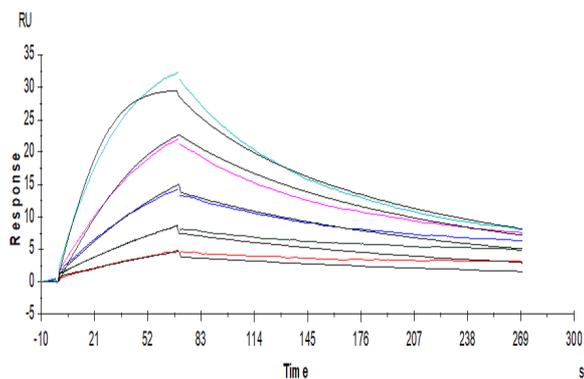
ELISA Data

Human GM-CSF, No Tag ELISA  
0.2µg Human GM-CSF, No Tag Per Well



Immobilized Human GM-CSF at 2µg/ml (100µl/Well) on the plate. Dose response curve for Human GM-CSF R alpha, hFc Tag with the EC50 of 10.3ng/ml determined by ELISA (QC Test).

SPR Data



Human GM-CSF R alpha, His Tag captured on CM5 Chip via anti-His antibody can bind Human GM-CSF, No Tag with an affinity constant of 0.79nM as determined in SPR assay (Biacore T200).