

# Human GM-CSF Protein; His Tag

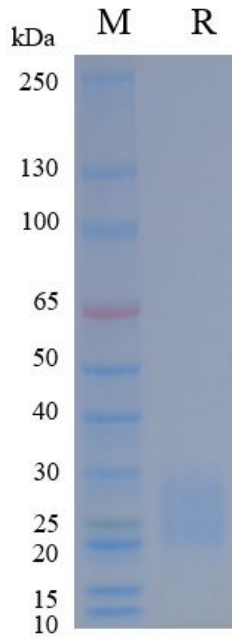
## Product Information

<b>Product Name</b>	Human GM-CSF Protein; His Tag
<b>Storage temp</b>	Store at $\leq -70^{\circ}\text{C}$ , stable for 6 months after receipt. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.
<b>Catalog# / Size</b>	<b>GM-88383RP-100 / 100 <math>\mu\text{g}</math></b> <b>GM-88383RP-1000 / 1 mg</b>

## Protein Information

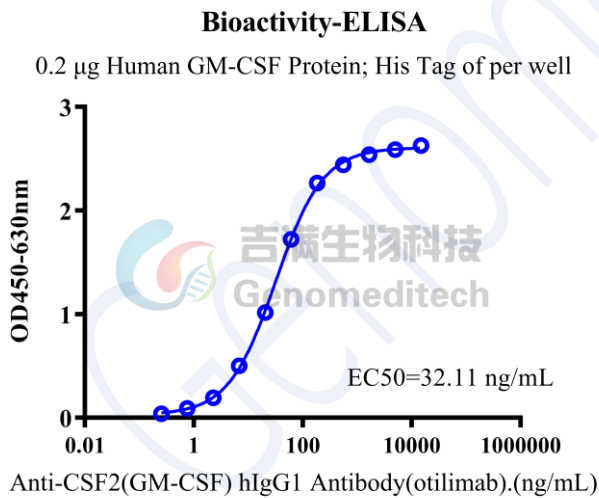
<b>Alternative Names</b>	GM-CSF, CSF2, MGC131935
<b>Source</b>	Human GM-CSF Protein; His Tag (GM-88383RP) is expressed from human 293 cells (HEK-293). It contains Ala 18 - Glu 144 (Accession # P04141). This protein carries a His tag at the N-terminus.
<b>Purity</b>	> 95% as determined by SDS-PAGE
<b>Endotoxin</b>	< 1 EU/ $\mu\text{g}$ , determined by LAL gel clotting assay
<b>Predicted Mol Mass</b>	15.3 KDa
<b>Formulation</b>	Supplied as a 0.2 $\mu\text{m}$ filtered solution of PBS, pH7.2-7.4.
<b>Description</b>	GM-CSF (CSF2, MGC131935) is a secreted cytokine produced by various cells, including T cells, macrophages, endothelial cells, and fibroblasts. It binds to the GM-CSF receptor complex (CSF2RA + CSF2RB) to stimulate proliferation, differentiation, and activation of myeloid cells (granulocytes, macrophages). It also promotes dendritic cell maturation, enhances antigen presentation, and modulates inflammation; clinically, GM-CSF boosts hematopoietic recovery and aids studies of myeloid biology and immune regulation. GM-CSF signaling mainly activates the JAK-STAT pathway (JAK2, sometimes JAK1; STAT5). It also engages MAPK/ERK and PI3K-AKT pathways, promoting survival, proliferation, and cytokine production. Crosstalk with other cytokine receptors shapes response magnitude/duration, affecting innate and adaptive immunity. Dysregulated GM-CSF signaling is linked to inflammatory diseases, myeloid malignancies, and autoimmunity, making GM-CSF a therapeutic target.

## SDS-PAGE



On SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

## Bioactivity-ELISA



Human GM-CSF Protein; His Tag (Catalog # GM-88383RP) was immobilized at 2  $\mu$ g/ml (100  $\mu$ L/well). Increasing concentrations of Anti-CSF2(GM-CSF) hIgG1 Antibody(otilimab) (Catalog # GM-28956AB) were added.