

## PRODUCT INFORMATION

## **GMP® GM-CSF**

## (Granulocyte-macrophage colony-stimulating factor), Human

v. 250301

Catalog number	C01116-GMP-1000	
Package	1 mg	
Description	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. GM-CSF also plays a role in embryonic development by functioning as an embryokine produced by reproductive tract.	
Expression System	Escherichia coli	
Species of Origin	Human	
Affinity Tag	His Tag (N-term)	
Sequence	Ala18-Glu144	
Endotoxin level	<0.05 EU per 1 $\mu$ g of the protein by the LAL method.	
Activity	Measure by its ability to induce TF-1 cells proliferation. The ED <sub>50</sub> for this effect is <80 pg/mL. The specific activity of recombinant human GM-CSF is approximately >1 x $10^7$ IU/mg.	
Purity	>98% as determined by SDS-PAGE analysis.	
Mycoplasma	Not detected	
Form	Lyophilized	
Storage Buffer	Lyophilized from a 0.2 µm filtered solution of PBS, pH 8.0.	
Reconstitution	It is recommended to reconstitute the lyophilized protein in sterile H <sub>2</sub> O to a concentration not less than 0.5 mg/mL and incubate the stock solution for at least 20 min to ensure sufficient re-dissolved.	
Stability & Storage	<ul> <li>This product is stable after storage at:</li> <li>-20°C for 12 months in lyophilized state from date of receipt.</li> <li>-20°C or -80°C for 1 month under sterile conditions after reconstitution.</li> <li>Avoid repeated freeze/thaw cycles.</li> </ul>	
Specification	Croyez GMP® recombinant proteins are manufactured in ISO 13485:2016 and	

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	GN	IP-certified facility. The processes include:
	•	Animal-free reagent and laboratory
	•	Manufactured and tested under GMP guideline
	•	Testing and traceability of raw material
	•	Records of the maintenance and equipment calibration
	•	Personnel training records
	•	Batch-to-batch consistency
	•	Documentation of QA control and process changes
	•	Manufactured and tested under an ISO 13485:2016 certified quality
		management system
	•	Stability monitor of product shelf-life
	1.	Becher B. et al. (2016) Immunity. 45,5: 963-973.
Reference	2.	Shi Y. et al. (2006) Cell research. 16,2: 126-33.
	3.	Hamilton JA. (2015) Expert Rev Clin Immunol. 11,4: 457-65.
	4.	Hamilton JA, Anderson GP. (2004) Growth Factors. 22,4: 225-31.
		kDa
		75-
		45-
		35-
		25-
		20-
		17
		11-
		SDS-PAGE analysis of GMP <sup>®</sup> GM-CSF, Human

For Research Use Only. Not for use in diagnostic or therapeutic procedures.