

Product Information

HumanKine® Granulocyte Macrophage-Colony Stimulating Factor

Human Recombinant, Expressed in HEK 293 Cells

H5666

Storage Temperature –20 °C

Synonyms: GM-CSF, CSF-2, MGI-1GM, Pluripoietin α

Product Description

HumanKine® GM-CSF is expressed as a 15–36 kDa glycosylated monomer in human 293 cells. Production in human 293 cells offers authentic glycosylation. Glycosylation contributes to stability in cell growth media and other applications. Although human and mouse GM-CSF share 54% amino acid sequence homology, their biological actions are species-specific and exhibit no cross-species reactivity.¹

Granulocyte-Macrophage Colony Stimulating Factor is a hematopoietic growth factor that stimulates the development of neutrophils and macrophages. GM-CSF also stimulates the proliferation and development of early erythroid, megakaryocytic, and eosinophilic progenitor cells. GM-CSF is produced by endothelial cells, monocytes, fibroblasts, and T end-cells.

Four distinct colony-stimulating factors (CSFs) that promote survival, proliferation, and differentiation of bone marrow precursor cells are well characterized: granulocyte-macrophage CSF (GM-CSF), granulocyte CSF (G-CSF), macrophage CSF (M-CSF), and interleukin-3 (IL-3, Multi-CSF).^{2,3} Both GM-CSF and IL-3 are multipotential growth factors, stimulating proliferation of progenitor cells from more than one hematopoietic lineage. In contrast, G-CSF and M-CSF are lineage-restricted hematopoietic growth factors, stimulating the final mitotic divisions and the terminal cellular maturation of partially differentiated hematopoietic progenitors. GM-CSF induces myeloid progenitor cells from bone marrow to form colonies containing macrophages and granulocytes in a semisolid media

This product is lyophilized from a solution of PBS.

ED₅₀: 0.4–2 ng/mL

The specific activity was determined by the dose-dependent stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line).

Purity: ≥ 95%

Endotoxin level: ≤ 1 EU/mg

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the safety data sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile PBS containing 0.1% endotoxin-free recombinant human serum albumin.

Storage/Stability

Store the product at -20 °C. Upon reconstitution, the cytokine can be stored at 2-8 °C for short term only, or at -20 °C to -80 °C in aliquots for long term. Avoid repeated freeze-thaw cycles.

References

1. Metcalf, D., Blood, 67, 257 (1986).
2. Mazur, E., and Cohen, J., Clin. Pharmacol. Ther., 46, 250 (1989).
3. Morstyn, G., and Burgess, A., Cancer Res., 48, 5624 (1988).

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