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Human GM-CSF Recombinant Protein

20 µg

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For Research Use Only. Not for Use in Diagnostic Procedures.**MW (kDa):**
14.6**UniProt ID:**
#P04141**Entrez-Gene Id:**
1437

Background

Granulocyte-macrophage colony-stimulating factor (GM-CSF) is produced by activated T cells, NK cells, and macrophages (1,5). Target cells include granulocytes, monocyte precursors, and subsets of differentiated myeloid cells (1-3). Many target cells require GM-CSF for survival. GM-CSF induces proliferation, is involved in hematopoietic differentiation of dendritic cells, and is a key factor in differentiation pathways leading from stem cells. GM-CSF activates effector functions of myeloid cells, thereby linking adaptive and innate immunity and in turn may boost anti-tumor immunity (4). GM-CSF receptor is composed of GM-CSFR α and the common β chain, β C, which is also utilized by IL-3 and IL-5 (1). Binding of GM-CSF initiates the Jak2, Stat5, and PI3K/Akt pathways (1).

Endotoxin

Endotoxin levels are less than or equal to 1 EU / 1 µg hGM-CSF.

Purity

A greater than or equal to 95% purity was determined by SDS-PAGE.

Source / Purification

Recombinant human GM-CSF was expressed in *E. coli* and is supplied in a lyophilized form.

Bioactivity

The bioactivity of recombinant hGM-CSF was determined in a TF-1 cell proliferation assay. The ED₅₀ of each lot is less than or equal to 200 pg/mL.

Background References

1. Guthridge, M.A. et al. (1998) *Stem Cells* 16, 301-13.
2. Sonoda, Y. et al. (1988) *Proc Natl Acad Sci U S A* 85, 4360-4.
3. Sonoda, Y. et al. (1988) *Blood* 72, 1381-6.
4. de la Cruz-Merino, L. et al. (2008) *Oncologist* 13, 1246-54.
5. Zhang, A.L. et al. (2007) *Blood* 110, 2484-93.

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