

GM-CSF

Granulocyte Macrophage-Colony Stimulating Factor murine, recombinant, *E. coli*

Cat. No.	Amount
PR-437	10 µg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form

Lyophilized.

Solubility

It is recommended to reconstitute the lyophilized GM-CSF in sterile bidest H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity

EC₅₀ < 0.2 ng/ml corresponding to a specific activity of 5 x 10⁶ Units/mg, determined by the dose-dependent stimulation of the proliferation of murine FDC-P1 cell line. GM-CSF was lyophilized against 2 mM sodium phosphate buffer pH 7.4.

Endotoxin

Less than 0.1 ng/µg (IEU/µg) of GM-CSF.

Molecular Weight

14 kDa

Purity

≥ 95% by SDS-PAGE and RP-HPLC

Description

GM-CSF is produced in response to a number of inflammatory mediators by mesenchymal cells present in the hemopoietic environment and at peripheral sites of inflammation. GM-CSF is able to stimulate the production of neutrophilic granulocytes, macrophages, and mixed granulocyte-macrophage colonies from bone marrow cells and can stimulate the formation of eosinophil colonies from fetal liver progenitor cells. GM-CSF can also stimulate some functional activities in mature granulocytes and macrophages. GM-CSF receptors shows significant homologies with other receptors for hematopoietic growth factors, including IL2-β, IL-3 (cat.# PR-462), IL-6 (cat.# PR-466 or PR-467), IL-7 (cat.# PR-468), EPO (cat.# PR-402 or PR-403), and the Prolactin receptors.

Recombinant murine GM-CSF produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 125 amino acids and having a molecular mass of 14.285 kDa.

Murine GM-CSF is purified by proprietary chromatographic techniques.

Selected References:

- Qureshi *et al.* (2005) Modulation of proinflammatory responses to *Pneumocystis carinii* f. sp. muris in neonatal mice by granulocyte-macrophage colony-stimulating factor and IL-4: role of APCs. *J. Immunol.* **174**:441.
- Lees *et al.* (2004) Site-specific regulation of tissue dendritic cell function by granulocyte-macrophage colony-stimulating-factor. *Immunology* **113**:482.
- Stout *et al.* (2004) IL-5 and granulocyte-macrophage colony-stimulating factor activate STAT3 and STAT5 and promote Pim-1 and cyclin D3 protein expression in human eosinophils. *J. Immunol.* **173**:6409.
- Obermueller *et al.* (2004) Cooperative autocrine and paracrine functions of granulocyte colony-stimulating factor and granulocytemacrophage colony-stimulating factor in the progression of skin carcinoma cells. *Cancer Res.* **64**:7801.
- Li *et al.* (2004) Inhibition or promotion of tumor growth by granulocyte-macrophage colony stimulating factor derived from engineered tumor cells is dose-dependent. *Anticancer Res.* **24**:2717.
- Hubert *et al.* (2004) Delivery of granulocyte-macrophage colony-stimulating factor in bioadhesive hydrogel stimulates migration of dendritic cells in models of human papillomavirus-associated (pre)neoplastic epithelial lesions. *Antimicrob. Agents Chemother.* **48**:4342.