

# Recombinant Human GM-CSF/CSF2 Protein (HEK293 Cells)

Catalog Number:PKSH031982

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

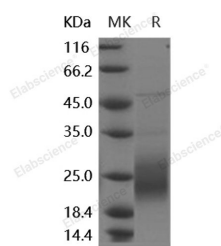
## Description

<b>Synonyms</b>	Granulocyte-Macrophage Colony-Stimulating Factor;GM-CSF;Colony-Stimulating Factor;CSF;Molgramostin;Sargramostim;CSF2;GMCSF
<b>Species</b>	Human
<b>Expression Host</b>	HEK293 Cells
<b>Sequence</b>	Met 1-Glu144
<b>Accession</b>	NP_000749.2
<b>Calculated Molecular Weight</b>	14.5 kDa
<b>Observed molecular weight</b>	23.8 kDa
<b>Tag</b>	None
<b>Bioactivity</b>	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is typically 0.1-0.6 ng/ml.

## Properties

<b>Purity</b>	> 90 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

## Data



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## Background

Granulocyte-macrophage colony-stimulating factor (GM-CSF) is one of an array of cytokines with pivotal roles in embryo implantation and subsequent development. Several cell lineages in the reproductive tract and gestational tissues synthesise GM-CSF under direction by ovarian steroid hormones and signalling agents originating in male seminal fluid and the conceptus. The pre-implantation embryo, invading placental trophoblast cells and the abundant populations of leukocytes controlling maternal immune tolerance are all subject to GM-CSF regulation. GM-CSF stimulates the

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differentiation of hematopoietic progenitors to monocytes and neutrophils, and reduces the risk for febrile neutropenia in cancer patients. GM-CSF also has been shown to induce the differentiation of myeloid dendritic cells (DCs) that promote the development of T-helper type 1 immune responses in cognate T cells. As a part of the immune/inflammatory cascade, GM-CSF promotes Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity, and thus worthy of consideration for therapeutic target. GM-CSF has been utilized in the clinical management of multiple disease processes. Most recently, GM-CSF has been incorporated into the treatment of malignancies as a sole therapy, as well as a vaccine adjuvant. While the benefits of GM-CSF in this arena have been promising, recent reports have suggested the potential for GM-CSF to induce immune suppression and, thus, negatively impact outcomes in the management of cancer patients.

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